HITACHI

CAMERA CONTROL UNIT
CU-HD1500

OPERATING INSTRUCTIONS

Please read these operating instructions carefully for proper operation, and keep them for future reference.

Hitachi Kokusai Electric Inc.

Note: The model and serial numbers of your product are important for you to keep for your convenience and protection. These numbers appear on the nameplate located on he bottom of the product. Please record these numbers in the spaces provided below, and retain this manual for future reference.

Model No. _____ **Serial No.** _____

SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and safety Instructions on your equipment.
Follow recommended precautions and safe operating practices.

SAFETY ALERT SYMBOL

This is the “Safety Alert Symbol.” This symbol is used to call your attention to items or operations that could be dangerous to you or other persons using this equipment. Read these messages and follow these instructions carefully.

It is essential that you read the instructions and safety regulations before you attempt to assemble or use this equipment.

The definitions of signal words are as follows:

⚠ WARNING WARNING: Personal danger
Warning notes indicate any condition or practice, which if not strictly observed, could result in personal injury or possible death.

⚠ CAUTION CAUTION: Possible damage to equipment
Caution notes indicate any condition or practice, which if not strictly observed or remedied, could result in damage or destruction of the equipment.

NOTE NOTE: Notes indicate an area or subject of special merit, emphasizing either the product’s capabilities or common errors in operation or maintenance.

⚠ WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS COLOR CAMERA TO RAIN OR MOISTURE.

AVERTISSEMENT

Afin d’éviter tout risque d’incendie ou d’électrocution, ne pas exposer l’appareil á la pluie ou á l’humidité.
Afin d’écarter tout risque d’électrocution, garder le coffret fermé. Ne confier l’entretien de l’appareil qu á un personnel qualifié.

VORSICHT

Um Feuergefahr und die Gefahr eines eiektrischen Schiages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.
Um einen elektrischen Schiag zu vermeiden, darf das Gehäuse richt geöffnet werden. Überiassen Sie Wartungsarbeiten stets nur einem Fachmann.

IMPORTANT SAFETY INSTRUCTIONS

1. Read Instructions

All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Heed Warnings

All warnings on the product and the operating instructions should be adhered to.

4. Follow Instructions

All operating and use instructions should be followed.

5. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7. Water and Moisture

Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

8. Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. Moving

A product and cart combination should be moved with care.

Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

10. Ventilation

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered.

The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11. Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

12. Grounding or Polarization

This product is equipped with a three-wire grounding-type plug a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

13. Power-Cord Protection

Power-supply cords should be routed to that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plug, convenience receptacles, and the point where they exit from the product.

14. Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

15. Overloading

Do not overload wall outlets, extension cords or integral convenience receptacles as this can result in a risk of fire or electric shock.

16. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

17. Inflammable and Explosive Substance

Avoid using this product where there are gases, and also where there are inflammable and explosive substances in the immediate vicinity.

18. Heavy Shock or Vibration

When carrying this product around, do not subject the product to heavy shock or vibration.

19. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

20. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power-supply cord or plug is damaged.
b. if liquid has been spilled, or objects have fallen into the product.
c. If the product has been exposed to rain or water.
d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e. If the product has been dropped or damaged in any way.
f. When the product exhibits a distinct change in performance-this indicates a need for service.

21. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock, or other hazards.

22. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

23. Wall or Ceiling Mounting

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

24. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

WICHTIGE SICHERHEITSANWEISUNGEN

1. Alle Anweisungen lesen.

Vor Betrieb des Erzeugnisses sollten alle Sicherheits-und Bedienungsanleitungen gelesen werden.

2. Die Anweisungen aufbewahren.

Die Sicherheits-und Bedienungsanleitungen sollten fünftigen Bezug aufbewahrt werden.

3. Warnungen beachten.

Die Warnungen auf dem Erzeugnis und in den Bedienungsanleitungen solten beachtet werden.

4. Anweisungen befolgen.

Alle Bedienungsanleitung-und
Verwendungsanweisungen sollten befolgt werden.

5. Reinigung

Den Stecker des Geräts vor Reinigung aus der Steckdose ziehen. Keine flüssigen Reinigungsmittel oder Aerosolreiniger verwenden. Zum Reinigen einen feuchten Lappen verwenden.

6. Zubehör

Nur vom-Hersteller des Erzeugnisses empfohlenes Zubehör verwenden, da es sonst zu Störungen kommen kann.

7. Wasser und Feuchtigkeit

Dieses Erzeugnis nicht in der Nähe von Wasser verwenden - z.B, in der Nähe einer Badewanne, eines Waschbeckens, einer Küchenspüle, eines Waschzubers, in einem nassen Keller, in der Nähe eines Schwimmbeckens usw.

8. Aufstellung

Das Erzeugnis nicht auf einen unstabilen Wagen, Stand, Dreifuß, Träger oder Tisch stellen.
Das Erzeugnis kann sonst herunterfallen und ein kind oder einen Erwachsenen schwer verietzen.
Außerdem kann das Gerät schwer beschädigt werden. Nur mit einem Wagen, Stand, Dreifuß, Träger oder Tisch verwenden, der vom Hersteller empfohlen oder mit dem Erzeugnis verkauft worden ist. Für jegliche Anbringung sollten die Anweisungen des Herstellers befolgt werden, und das vom Hersteller empfohlene Anbringungszubehör sollte verwendet werden.

9. Eine Kombination von Erzeugnis und Wagen sollte vorsichtig bewegt werden.

Schneller Halt, übermäßige Krafteinwirkung und unebene Oberflächen können Umkippen der kombination von Erzeugnis und Wagen verursachen.

10. Ventilation

Schlitze und Öffnungen im Gehäuse dienen der Ventilation. Sie sind für zuverlässigen Betrieb des Gerätes und Schutz vor Überhitzung erforderlich und dürfen nicht blockiert oder abgedeckt werden.
Die Öffnungen sollten niemals dadurch blockiert werden, daß, das Gerät auf ein Bett, ein Sofa, einen Teppich oder eine ähnliche Oberfläche gestellt wird.
Das Gerät sollte nur dann in Einbauinstallierung wie in einem Bücherschrank oder einem Gestell verwendet werden, wenn angemessene Ventilation vorgesehen ist bzw. Die Anweisungen des Herstellers befolgt worden sind.

11. Stromversorgung

Dieses Erzeugnis sollte nur an der auf dem Typenschild angegebenen Stromversorgungsart betrieben werden. Wenn Sie nicht sicher sind, was für eine Stromversorgung Sie haben, so wenden Sie sich bitte an Ihren Erzeugnishändler oder an das lokale Elektrizitätswerk. Beziehen Sie sich für Batteriebetrieb oder andere Stromquellen vorgesehene Erzeugnisse bitte auf die Bedienungsanleitungen.

12. Erdung oder Polarisierung

Dieses Erzeugnis ist mit einem Schutzkontaktstecker mit drei Leitern ausgerüstet, mit einem Erdungskontakt. Dieser Stecker paßt nur in ein schuko-Steckdose. Dies ist eine Sicherheitsmaßnahme. Wenn Sie den Stecker nicht in die Steckdose stecken können, so wenden Sie sich bitte an ihren Elektriker, damit er die veraltete Schuts des Schutzkontaktsteckers unwirksam.

13. Netzkabelschutz

Netzkabel sollten so verlegt werden, deß möglichst nicht darauf getreten wird und daß sie nicht eingeklemmt werden, mit besonderer Beachtung der kabel an Stackern, Verlängerungskabeln und dem Austritt des Kabels aus dem Erzeugnis.

14. Blitzschlag

Für zusätzlichen Schutz des Erzeugnisses während eines Gewitters oder bei Nichtverwendung für lange Zeit den Stecker aus der Steckdose ziehen. Dies verhütet Beschädigung durch Blitzschlag und Netzspannungsstöße.

15. Überlastung

Wandsteckdosen, Verlängerungskabel und eingebaute Bequemlickkeitssteckdosen nicht überlasten, da dies Feuer oder elektrischen Schlag verursachen kann.

16. Eindringen von Fremdkörpern und Flüssigkeit

Niemals Objekte irgendwelcher Art durch die Öffnungen in das Gerät schieben, da diese unter hoher Spannung stehende Teile berühren oder kurzschließen können, wodurch es zu Feuer oder elektrischem Schlag kommen kann. Niemals Flüssigkeiten irgendwelcher Art auf das Erzeugnis verschütten.

17. Entflammbare und explosive Substanzen

Vermeiden Sie Verwendung dieses Erzeugnisses an Orten mit Gasen bzw. entflammbaren oder explosiven Substanzen in der direkten Umgebung.

18. Starke stöße oder Vibrationen

Setzen Sie das Erzeugnis beim Transport nicht starken Stößen oder Vibrationen aus.

19. Wartung

Versuchen Sie nicht, dieses Erzeugnis Selbst zu warten, da Sie sich durch Öffnen bzw. Entfernen von Abdeckungen hohen Spannungen und sonstigen Gefährdungen ausserzen können.

Beziehen Sie sich für jegliche Wartung auf qualifiziertes Wartungspersonal.

20. Beschädigung, die Wartung erfordert

Ziehen Sie den Stecker dieses Erzeugnisses aus der Steckdose und wenden Sie sich an qualifiziertes Wartungspersonal, wenn eine der folgenden Bedingungen vorliegt:

a. Wenn das Netzkabel oder der Stecker beschädigt ist.
b. Bei Eindringen von Flüssigkeit oder Fremdkörpern in das Gerät.
c. Wenn das Erzeugnis Regen oder Wasser ausgesetzt worden ist.
d. Wenn das Erzeugnis bei Befolgen der Bedienungsanleitungen nicht normal funktioniert.
   Nur die Regelelemente verstellen, die in den Bedienungsanleitungen behandelt werden, da unangemessene Einstellung anderer Regelelemente Beschädigung verursachen kann und oft beträchtliche Arbeit durch einen qualifizierten Techniker erfordert, um das Erzeugnis wieder, zu normalem Betrieb zurückzubringen.
e. Wenn das Erzeugnis fallen gelassen oder beschädigt worden ist.
f. Wenn das Erzeugnis eine klare Änderung in der Leistung zeigt-dies weist darauf hin, daß Wartung erforderlich ist.

21. Ersatzteile

Wenn Ersatzteile erforderlich sind, darauf achten, daß der Wartungstechniker nur die vom Hersteller festgelegten Ersatzteile oder Teile mit den gleichen Charakteristiken wie die ursprünglichen Teile verwendet. Unautorisierte Ersatzteile können Feuer, elektrischen Schlag oder sonstige Gefährdungen verursachen.

22. Sicherheitsprüfung

Bitten Sie den Wartungstechniker nach der Vollendung von Wartung oder Reparaturarbeiten an diesem Erzeugnis um die Durchführung von Sicherheitsprüfungen, um zu bestimmen, daß das Erzeugnis im angemissenen Betriebszustand ist.

23. Anbringung an der Wand oder an der Decke

Das Erzeugnis sollte nur entsprechend den Empfehlungen des Herstellers an einer Wand oder an der Decke angebracht werden.

24. Wärme

Das Erzeugnis sollte fern von Wärmequellen wie Radiatoren, Heizwiderständen, Öfen und anderen Wärme erzeugenden Erzeugnissen (einschließlich Verstärkern) aufgestellt werden.

MISES EN GARDE IMPORTANTES

1. Lire les instructions

Lire toutes les instructions de sécurité et de fonctionnement avant de faire fonctionner l'appareil.

2. Conserver ces instructions

Conserver les instructions de sécurité et de fonctionnement á des fins de référence ultérieure.

3. Tenir compte des avertissements

Tous les avertissements qui figurent sur l'appareil et dans le mode d'emploi devront être respectés.

4. Observer les instructions

Observer toutes les instructions de fonctionnement et d'utilisation.

5. Nettoyage

Avant de procéder au nettoyage, débrancher l'appareil de la prise secteur. Ne pas utiliser de produits de nettoyage liquides ou en aérosol.

Nettoyer l'appareil avec un chiffon humide.

6. Fixations

Ne pas utiliser de fixations non recommandées par le fabricant de l'appareil car elles pourraient être source de danger.

7. Eau et humidité

Ne pas utiliser l'appareil á proximité d'eau-par exemple prés d'une baignoire, d'un lavabo, d'un évier ou d'un bac á lessive, dans un sous-sol humide, ou prés d'une piscine, etc.

8. Accessoires

Ne pas placer l'appareil sur un chariot, un socle, un pied, un support ou one table instables L'appareil pourrait tomber, blessant griévement des enfants ou des adultes, et étant sérieusement endommagé.

Utiliser exclusivement le chariot, le socle, le pied, le support ou la table recommandés par le fabricant, ou vendus avec l'appareil. Pour tout montage de l'appareil, respecter les instructions du fabricant, et utiliser á cette fin l'accessoire de montage recommandé par le fabricant.

9. L'appareil monté sur son chariot devra être déplacé avec précaution.

Des arrêts brusques, une force excessive et des surfaces irréguliéres pourraient provoquer le renversement de l'ensemble appareil-chariot.

10. Ventilation

Les fentes et les ouvertures du coffret sont prévues pour la ventilation ainsi que pour garantir un fonctionnement en toute sécurité de l'appareil et le protéger de toute surchauffe, et ces ouvertures ne devront donc être ni obstruées ni recouvertes. Ne jamais obstruer les ouvertures en placant l'appareil sur un lit, un sofa, un tapis ou toute surface similaire. Ne jamais placer l'appareil dans un support confiné, par exemple une bibliothéque ou une é tagé re, sans ventilation suffisante ou sans repecter les instructions du fabricant.

11. Sources d'allmentation

L'appareil devra être alimenté exclusivement sur le type d'alimentation indiqué sur l'étiquette signalétique. Sil'on n'est pas sûr du type d'alimentatio du local, consulter le revendeur de l'appareil ou la compagnie d'électricité locale. Pour les appareils qui fonctionnent sur batterie ou sur d'autres sources, voir le mode d'emploi.

12. Mise á la terre ou polarisation

L'appareil est doté d'une fiche trifilaire avec mise á la terre, dont la troisiéme broche assure la mise á la terre. Cette fiche ne rentrera que dans les prises trifilaires de mise á la terre. Ceci est une mesure de sécurité. Si la fiche ne rentre pas dans la prise, faire remplacer la prise désuéte par un électricien.

Ne pas rendre vaine la measure de sécurité assurée par cette prise avec mise á la terre.

13. Protection du cordon d'alimentation

Acheminer les cordons d'alimentation de facon qu'on ne risque pas de marcher dessus ou de les coincer sous un

objet placé dessus ou contre eux.

Faire particuliérement attention aux fiches des cordons, á la proximité des prises, et á l'endroit oú ils ressortent de l'appareil.

14. Foudre

Pour renforcer la protection de l'appareil pendant un orage, ou si l'on s'en éloigne ou qu'on reste longtemps sans l'utiliser, le débrancher de la source d'alimentation. Ceci permettra d'éviter tout dommage de l'appareil dú á la foudre et aux surtensions de ligne.

15. Surcharge

Ne pas surcharger les prises, rallonges et prises multiples car cela pourrait entraîner un risque de feu ou de choc électrique.

16. Pénétration d'objets et de liquides

Ne jamais enfoncer d'objets d'aucune sorte dans les ouvertures de l'appareil car ils pourraient toucher des points de tension dangereuse ou court-circuiter des piéces, ce qui pourrait provoquer un feu ou un choc électrique. Ne jamais renverser de liquide d'aucune sorte sur l'appareil.

17. Substances inflammabes et explosives

Eviter d'utiliser l'appareil en présence de gaz, ainsi qu'á proximité immédiate de substances inflammables et explosives.

18. Chocs ou vibrations violents

Lorsqu'on transporte l'appareil, ne pas le soumettre á des chocs ou des vibrations violents.

19. Réparations

Ne pas tenter de réparer l'aapareil soi-même car le fait d'ouvrir ou de retirer les caches risque d'exposer l'utilisateur á des tensions dangereuses notamment. Confier toute réparation á un personnel qualifié.

20. Dommages nécessitant réparations

Débrancher l'appareil de la source d'alimentation et confier les réparations á un personnel qualifié dans les cas suivants:

a. Lorsque le cordon d'alimentation ou sa fiche sont endommagés
b. Si du liquide s'est renversé sur l'appareil ou que des objets sont tombés dedans
c. Si l'appareil a été exposé á la pluie ou á l'eau.
d. Si l'appareil ne fonctionne pas normalement lorsqu'on observe les instructions d'utilisation.
   Ne régler que les commandes couvertes par le mode d'emploi ; en effet, un réglage incorrect des autres commandes pourrait entrainer des dommages et nécessiteront souvent des travaux de réparation coûteux par un technicien qualifié pour remettre l'appareil en état de marche.
e. Si l'appareil est tombé ou qu'il a été endommagé.
f. Si l'appareil affiche une nette modification de ses performances, cela signifie qu'il a besoin d'être réparé.

21. Piéces de rechange

Si l'on a besoin de piéces de rechange, veiller á ce que le technicien de réparation utilise exclusivement les piéces de rechange spécifiées par le fabricant ou des piéces ayant les mêmes caractéristiques que les piéces d'origine. Les piéces de rechange non autorisées risquent de provoquer un feu, un choc électrique et autres dangers.

22. Vérificaton de sécurité

Aprés tout travail d'entretien ou de réparation de l'appareil, demander au technicien de réparation d'effectuer les vérifications de sécurité pour s'assurer que l'appareil est en bon état de marche.

23.Montage au mur ou au plafond

L'appareil ne pourra être monté au mur ou au plafond que de la maniére recommandée par le fabricant.

24. Chaleur

Eloigner l'appareil des sources de chaleur, telles que radiateurs, appareils de chauffage, cuisiniéres, et de tour produit engendrant de la chaleur (y compris les amplificateurs).

IMPORTANT NOTICE

For USA

These products have been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or modifications not expressly approved by Hitachi Kokusai Electric responsible for compliance could void the user's authority to operate the equipment.

For Canada

This product does not exceed the class A/class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations.

Le présent appareil n'émet pas de bruits radioélectriques dépassant les limités applicable aux appareils numériques de classe A prescrites dans le rVglement sur le brouillage radioélectrique édicter par le ministére des communications du canada.

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Outline and features

The CU-HD1500 is a camera control unit (CCU) designed for the newly developed three times high speed camera SK-HD1500. The CU-HD1500 has significantly reduced power consumption and sophisticated function. The CU-HD1500 simultaneously provides both three times speed outputs (1080i/720p） and normal speed outputs (1080i/720p/SD) to offer a flexible system operation.

Features

■ **Three times smoothly slow-motion playback combined with video server.**

The CU-HD1500 provides 2 sets of 3 HD-SDI signals (LINK-A, LINK-B, and LINK-C) fed from three times high speed camera head. These signals are compatible with the EVS and BLT HD slow motion video servers.

■ **A flexible system capable of handling current HDTV and SDTV formats can be constructed.**

DIGITAL inputs/outputs:
- HIGH SPEED OUTPUT(LINK-A, LINK-B, LINK-C) x2 [Embedded audio available]
- HD-SDI or SD-SDI OUT x4 [x2/x2 Embedded audio available]
  (SD-SDI 16:9/4:3 switchable)
- HD-SDI x2 [Embedded audio available, Trunk video output selectable]
- HD-SDI or SD-SDI WFM OUT x1 [Embedded audio available]
- HD-SDI or SD-SDI PIX OUT x1 [Embedded audio available]
- HD-SDI or SD-SDI RET In x4 [for Viewfinder]
- HD-SDI or SD-SDI RET In x2 [for Floor Monitor]

Analog inputs
- PROMPT IN x1
- GL IN x1

■ **High-performance down converter**

High-speed line conversion technology yields high resolution in the SD picture.
Due to the use of an independent and separate processor located in the CCU, detail can be adjusted for the SD video outputs without affecting the HD video signal outputs.

■ **Built-in up converter**

The HDTV up-converter for displaying the SDTV return signals in the HD Viewfinder is provided as standard with the CU-HD1500. The up converter is of a line-correction type capable of displaying 1,080 effective scanning lines. In addition, AUX and Return color signals can be displayed in the TFT-LCD color viewfinders offered.

■ **High-quality transmission using a digital optical transmission system**

An HFOC (Hybrid Fiber Optic Cable) is used to connect the camera head and CCU.
The signals are transmitted using an optical serial digital transmission method.
(HD-SDI standard) to ensure high-quality transmission.
The effective HFOC length can be up to 4 km. (without utility power)

■ **HD-SDI (1080i) trunk video**

An external video source can be transmitted from camera to CCU for secondary camera.

Warnings and cautions when using

⚠ CAUTION

■**Do not disassemble or modify**
The camera contains precision internal components. Do not open the cover or disturb switches and controls other than designated. There is risk of impaired performance and damage.

■**Keep foreign object out of interior**
Entry of water, metallic or other foreign materials can cause failure and damage.

■**Select use and storage locations carefully**
Avoid using or storing the equipment in the following types of locations. Impaired performance and damage can be caused.

- Extremely hot or cold locations (exceeding 0 to 40°C), such as in enclosed vehicles.
- Subject to strong vibration.
- Humid or dusty locations.
- Salt spray or corrosive gases.
- Strong electromagnetic fields (e.g., near TV or radio transmitters).
- Where exposed to rain.

■When connecting and disconnecting cables, grasp the connector by the body, not the attached cable. Cables can be damaged by pulling on them.

■**Fuse replacement**
Important: Although spare fuses are provided, the fuse must be replaced only by a qualified service technician.

■**In event of difficulty**
Disconnect from power and contact the nearest Hitachi Kokusai Electric service agency.

Warnings and cautions when using

Hybrid Fiber Optical Camera Cable & Connector Handling

CU-HD1500 camera is using the optical fiber cable & connector which is required special technique for handling.

1. Cable Connector & Receptacle

(1) FCF (Fiber Cable Female)

(2) FCM (Fiber Cable Male)

(3) FCFR (Female Receptacle)

(4)FCMR (Male Receptacle)

2. Maintenance tool & information

(1) Cleaning Stick (CANARE CLETOP 2.5/2.0)

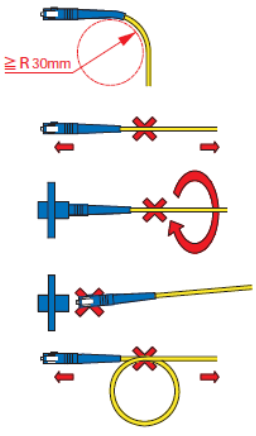
(2) CLEANING KIT

Fiber optical cable assembly manufacture "CANARE" has Cleaning kit for the optical fiber cable & connector available. Detail is in URL http://www.canare.co.jp

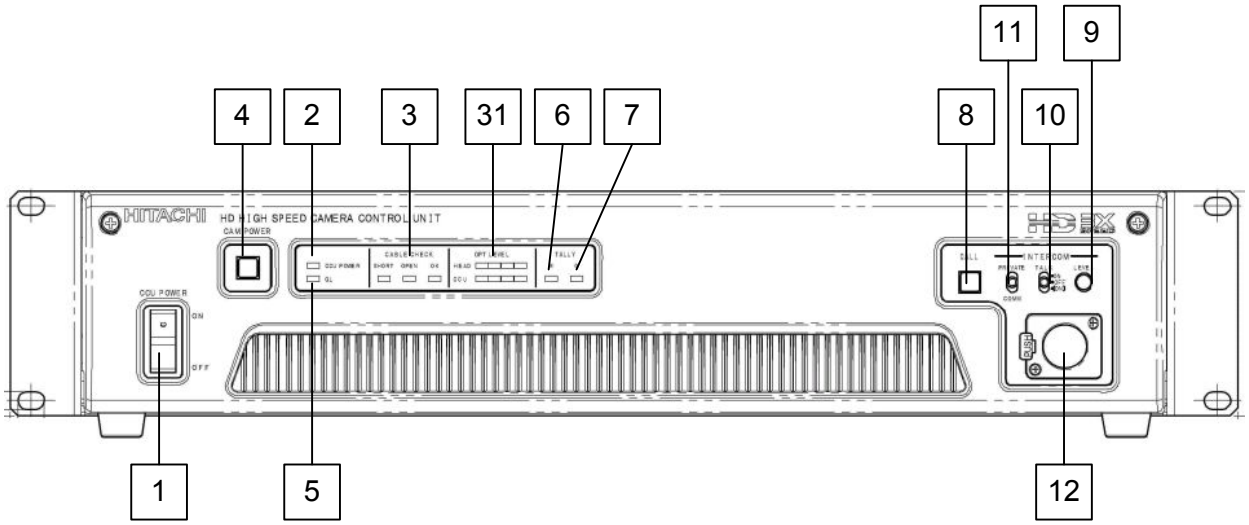
Handling Precautions

Depending on usage, fiber-optic patch cables may not be capable of offering their full designed maximum performance. To prevent any deterioration of signal quality, be sure to observe the following precautions:

- Do not bend the base of the connector less than 30mm (minimum permissible bend range).
- Avoid applying tension of 80N (8.2kgf) or more to the fiber-optic cable. Even momentary applications may damage the cable.
- Do not twist the fiber-optic patch cable while connected to equipment.
- When connecting cables to equipment or adapters, be sure to insert the connector straight into its corresponding jack and not at an angle. Also, fully insert the connector until its white line disappears.
- During installation, take care not to allow kinks to develop in the cable.



Facility names and functions (Front)



1 CCU POWER switch

CCU power on/off switch.

2 CCU POWER LED

Lights when power is on.

3 CABLE CHECK LED

OK: CAMERA POWER switch **4** can be operated.
OPEN: Fiber cable not connected.
SHORT: Excess current in fiber cable.

Note: CAMERA POWER switch **4** is inoperative when OPEN, SHORT LED is lighted.

4 CAMERA POWER switch

The switch lights during camera power on.
When the camera power is off, only one channel intercom (CH1) is available.
Press the switch for three seconds or more, to turn off the camera power.

5 GL ON LED

Lights during genlock operation.

Note: When a different frame rate signal is input for genlock, the LED blinks and the signal is ignored.

6 R TALLY LED

Lights at red tally input or when CALL signal is sent from camera.

7 G TALLY LED

Lights at green tally input.

8 CALL button

Press to call the camera.

9 INTERCOM LEVEL control

Adjusts intercom listening volume.

10 TALK ON/OFF switch

Intercom microphone on/off switch.

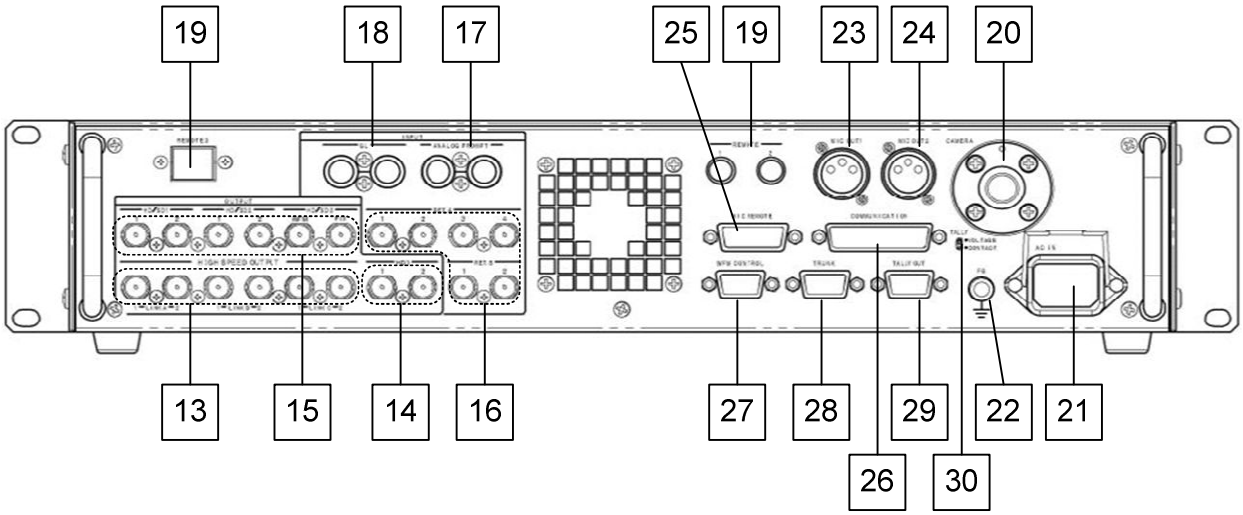
11 PRIVATE/COMM switch

PRIVATE: Communicate with camera only
COMM: Communicate with entire system

12 Intercom connector (XLR,5P)

Connection for optional MT-12MF headset.

Facility names and functions (Rear)



13 HIGH SPEED OUTPUT connectors (BNC)

Outputs 2 sets of three times high speed signals as LINK A, LINK B and LINK C.
[1080i, 720p]

14 HD SDI connectors (BNC)

Outputs two lines of digital serial HDTV video signals. A trunk video output (1080i) can be selected by CCU menu.
[1080i, 720p]

15 HD/SD SDI connectors (BNC)

Outputs six lines of digital serial HDTV/SDTV video signals.
[1080i, 720p, SD]
The character is superimposed in PIX output.

16 D.RET input connectors (BNC)

Input digital serial AUX video signals.
RET.A: Normal Return Signal
Output from the camera viewfinder or the camera's RET connector.
Selected by 4-position RET SEL switch on CA-HF1500 and CCU menu.
RET.B: Continuous Return Signal
Output from HD-SDI2 connector on CA-HF1500.
Selected by only CCU menu.

Important notice

When using return video, please input correct format signal, which is selected on the return assignment menu (page 13).

17 PROMPT connectors (BNC)

Input analog video signal for the prompter. The signal is sent to PROMPT out connector on CA-HF1500.

18 Genlock connectors (BNC)

Input tri-level sync signal or black burst signal for genlock operation.

19 REMOTE 1,2,3 connector

Connect the optional camera control panel or setup control unit.

20 Fiber connector

Connect Fiber cable.

21 AC IN connector

Input for AC power supply.

22 FG terminal

Frame ground terminal.

23 MIC OUT1 connector (XLR 3 pin)

Outputs MIC1 audio signals from a camera or the CA-HF1500 at 0 dBm/600 ohm.

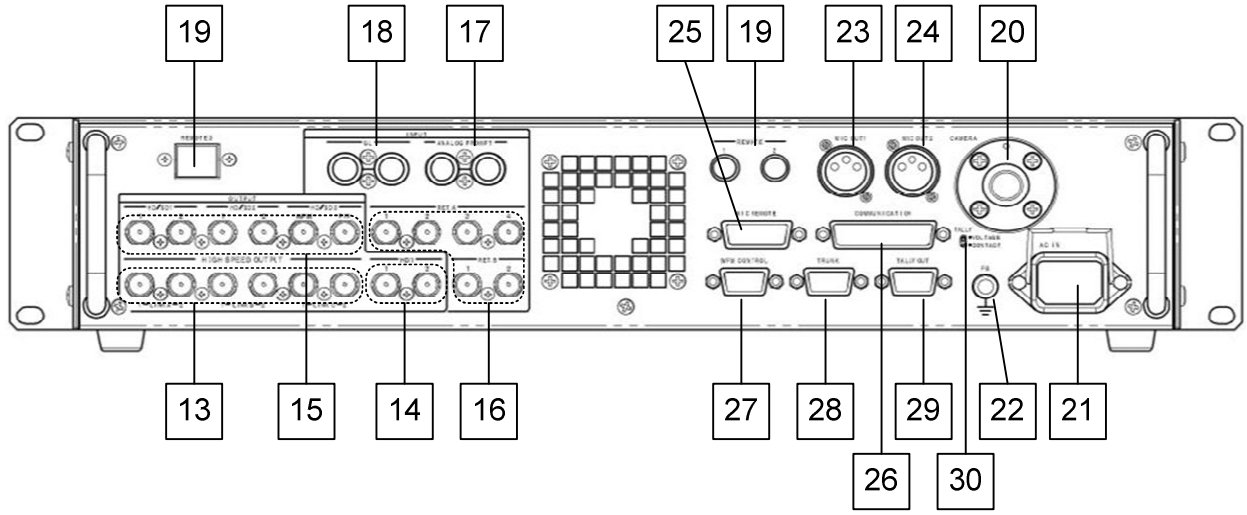
24 MIC OUT2 connector (XLR 3 pin)

Outputs MIC2 audio signals from the CA-HF1500 at 0 dBm/600 ohm.

25 MIC REMOTE connector

This connector is used to select the MIC1 and MIC2 amplifier gains.

Facility names and functions (Rear & Front)



26 COMMUNICATION connector

Intercom and tally signals are input from external system.

27 WFM CONTROL connector

This connector is used to select the display mode of the waveform monitor.

28 TRUNK connector

Use for communication with TRUNK connector on CA-HF1500 via RS-422 interface.

29 TALLY OUT connector

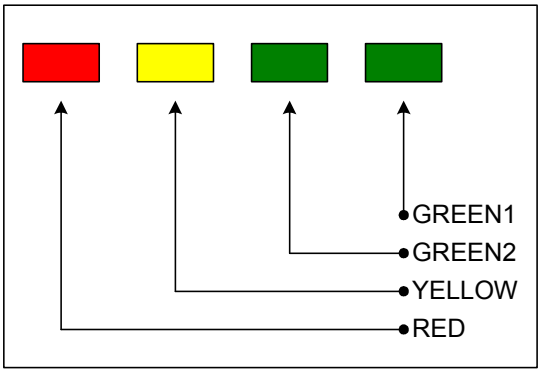
Contact outputs for tally signals.

30 TALLY CONTACT/VOLTAGE

The TALLY input can be contact or voltage supply.
Set the TALLY switches according to the systems connected to the COMMUNICATION connector on rear panel.

31 Receiver Level LED (Front)

The strength of the arriving light signal via fiber cable is indicated by position of lighting LED.



Indicate the receiver level approximately
GREEN1: -3dBm to -8dBm (Normal)
GREEN2: -8dBm to -11dBm
YELLOW: -11dBm to -14dB (Warning)
RED: under -14 dB (Alarm)

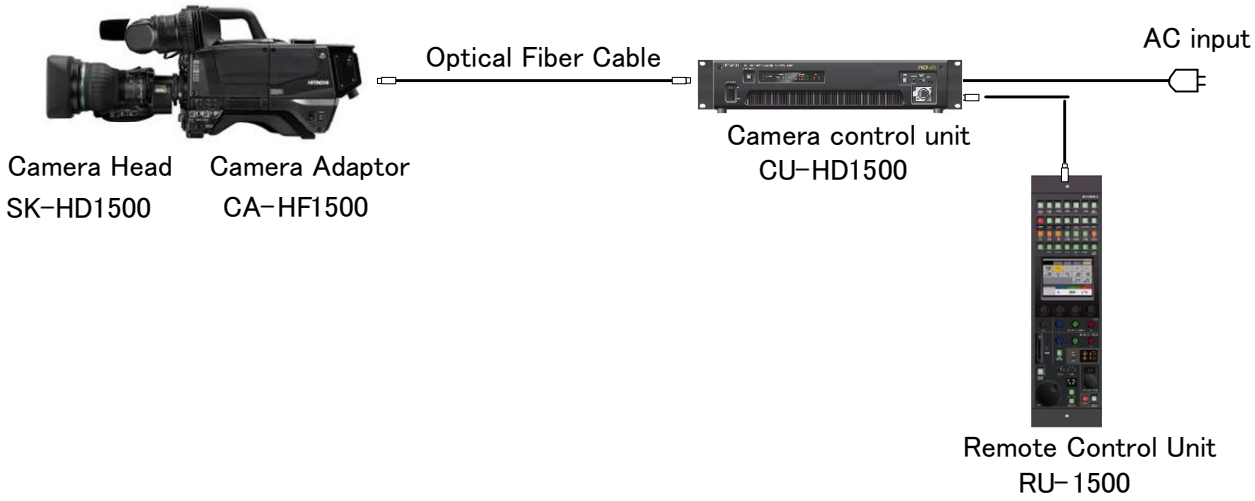
System Configuration

Attach the Camera adapter(CA-HF1500) to the Camera head(SK-HD1500). Then connect the camera control panel and setup control unit to the CU-HD1500.

1. AC power supply operation

When the CU-HD1500 CCU POWER switch is set to ON, the optical fiber cable connection is checked automatically (it takes about 5 seconds), and then power can be supplied to the camera by pressing the CAMERA POWER button to enable a video output signal.
The CABLE CHECK LED lights OK when the optical fiber cable is normal.
The intercom system is available when the CCU POWER switch is ON.

Note: When operation mode is changed from MAIN mode to STBY mode, wait for 10 seconds to restart the camera power.



2. Camera stand alone operation

Supply 12VDC to the CA-HF1500, but do not connect either optical fiber cable or SM fiber cable. The camera can be operated in stand-alone mode. The video signal appears at the camera MONI OUT and SDI OUT1/2 connectors.

System Configuration

3. DC power supply operation

By carrying out the external input of the camera side power supply, long-distance cable transmission becomes possible.

Directions for operation are as follows.

1) Between CU-HD1500 (camera control unit) is connected with CA-HF1500 (camera adaptor) by a single mode fiber cable.

2) The power supply of CU-HD1500 is switched on.

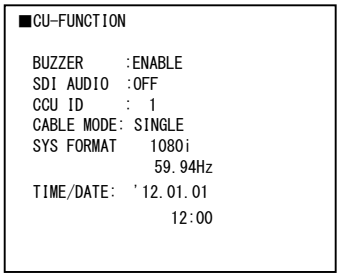
3) The menu of CU-HD1500 is displayed.

4) "CABLE MODE" of a CU-FUNCTION menu is set as SINGLE.

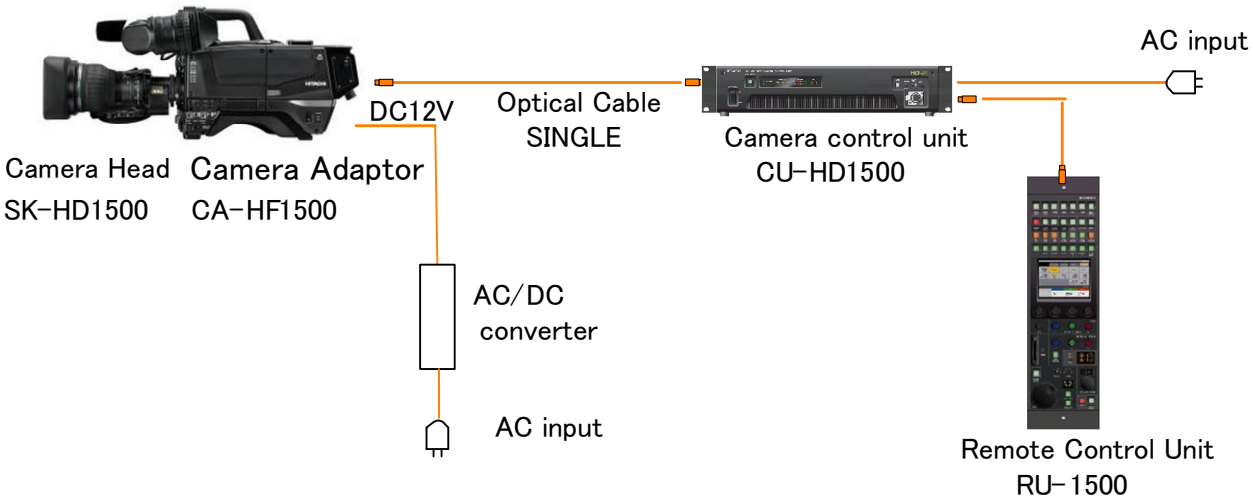
(*) The selection only of the time of STBY mode(CAM POWER:OFF) is attained.

5) A power supply is inputted into the DC IN connector of CA-HF1500.

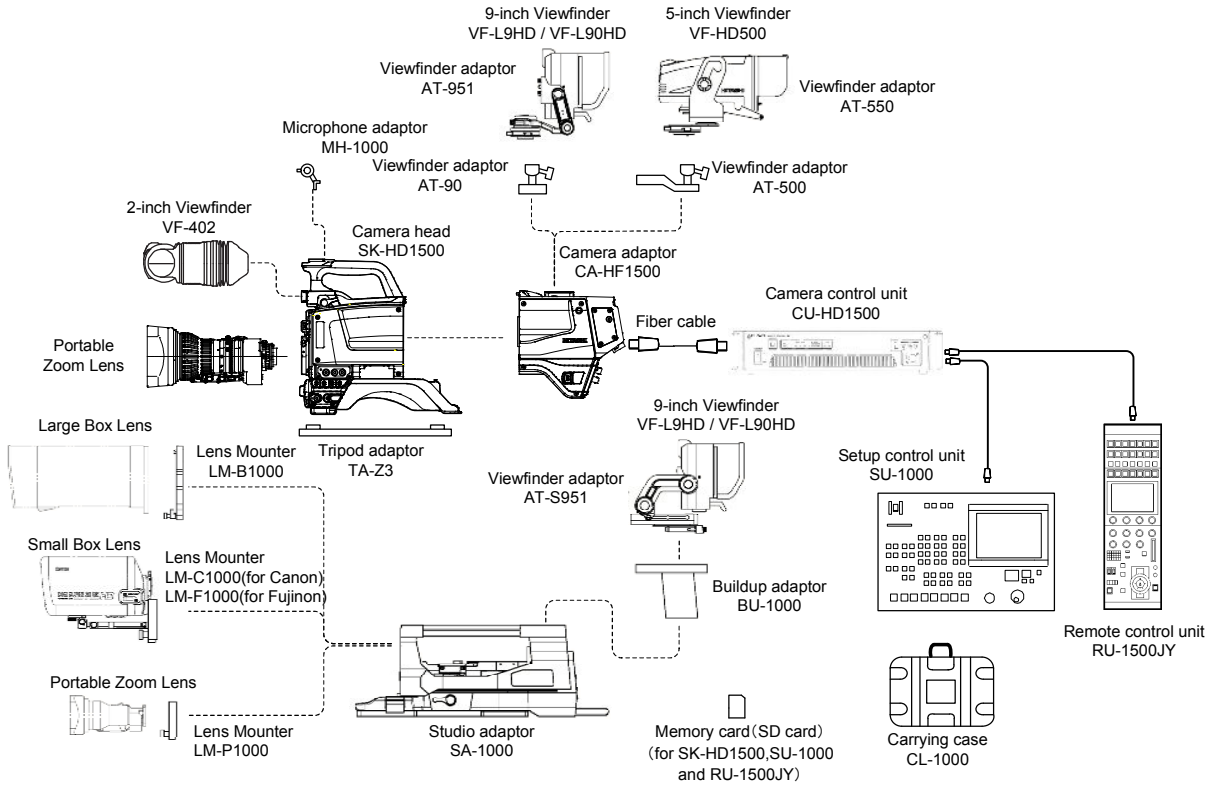
6) PWR SW of CA-HF1500 is set as EXT.



CU-FUNCTION MENU SCREEN



System Configuration



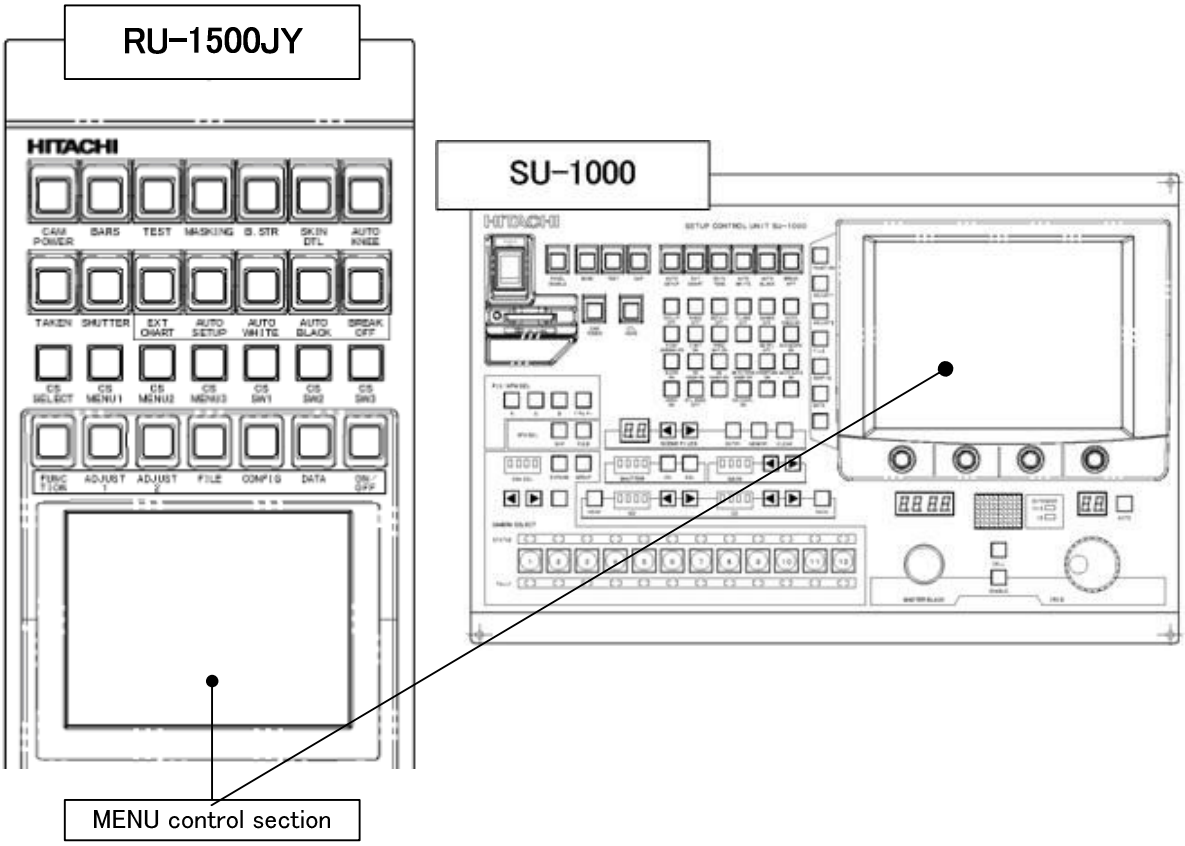
System Configuration Chart

Function menu

Function menu

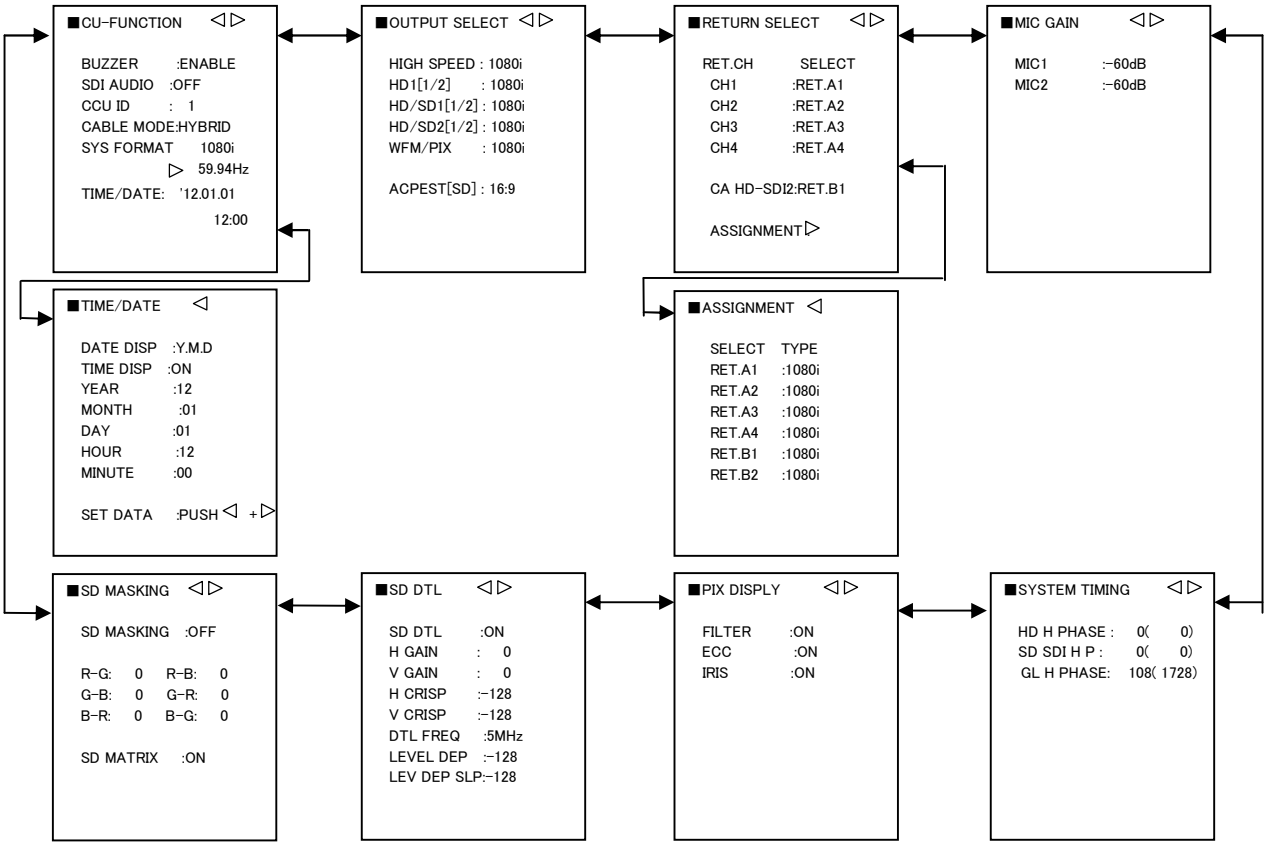
Connect the camera control panel (RU-1500) or the setup control unit (SU-1000) to the CU-HD1500 to display the function menus on PIX video output.

The function menus include the CCU menu to adjust the CU-HD1500 and the camera menu to adjust a camera.



Function menu

To display CCU menu, turn on color bars and then press FUNC button of the camera control panel.

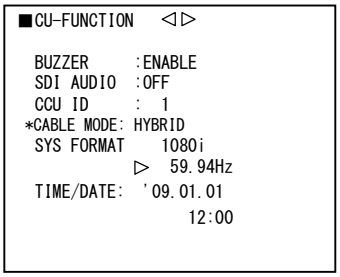


Camera menu

To display camera menu, press FUNC button when color bars off. The contents of camera menu depend on camera type. Please refer to the camera operating instructions.

Function menu

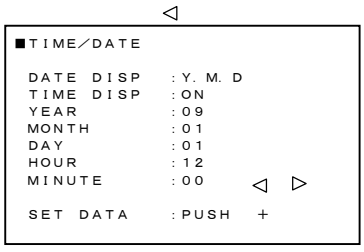
CU-FUNCTION menu



Item	Setting	Factory setting	Description
BUZZER	ENABLE, DISABLE	ENABLE	Sets buzzer operation during call input. ENABLE : Buzzer sounds. DISABLE : Buzzer does not sound.
SDI AUDIO	ON,OFF	OFF	Sets the embedded audio ON/OFF of the HD-SDI /SD-SDI output.
CABLE MODE	HYBRID SINGLE	HYBRID	Select the mode of optical cable.(*1)
CCU ID	1 ～ 12	1	Sets the CCU ID. This ID is required for the SETUP CONTROL UNIT to identify group of CCU.
SYS FORMAT			Displays the TV format.
TIME/DATE			Moves to the TIME/DATA submenu.

(*1) In the CAM PWR: OFF case (camera power supply AC230V is not supplied), change in cable mode is attained. In the case of CAM PWR: ON (camera power supply AC230V is supplied), change in cable mode becomes improper. In that case, it becomes impossible to choose the cable mode change item "CABLE MODE" of a menu screen. (“*” Attach before an item.)

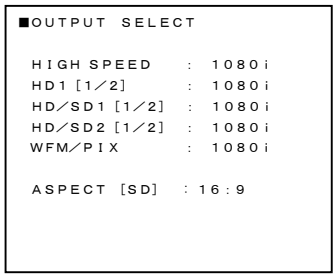
TIME/DATE menu



Item	Setting	Factory setting	Description
DATE DISP	OFF, Y.M.D, M.D.Y, D.M.Y	Y.M.D	Sets the order of date display. If set OFF, the date is not displayed.
TIME DISP	OFF, ON	ON	Sets the time display. When ON is selected, the CU-FUNCTION menu displays the time.
YEAR	00 ～ 99	-	Sets the year of the date.
MONTH	00 ～ 12	-	Sets the month of the date.
DAY	00 ～ 31	-	Sets the day of the date.
HOUR	00 ～ 23	-	Sets the hours of the time.
MINUTE	00 ～ 59	-	Sets the minutes of the time.
SET DATA	PUSH ◁ + ▷	-	Press both ◁ and ▷ buttons together to fix the TIME/DATE setting.

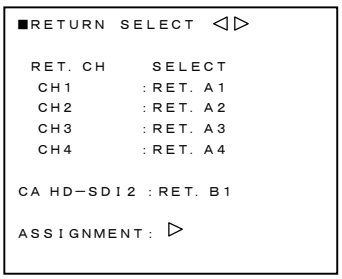
Function menu

OUTPUT SELECT menu



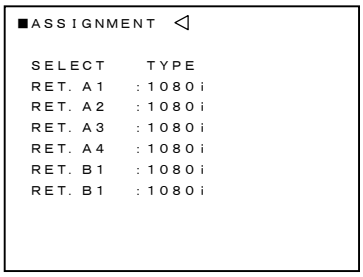
Item	Setting	Factory setting	Description
HIGH SPEED	1080i,720p	1080i	Assigns output signal of HIGH SPEED OUTPUT connector .
HD1[1/2]	1080i,720p, TRUNK VIDEO	1080i	Assigns output signal of HD1[1/2] connector. When TRUNK VIDEO is selected, an external video source (1080i) is fed from CA-HF1500.
HD/SD1[1/2]	1080i,720p,SD	1080i	Assigns output signal of HD/SD[1/2] connector.
HD/SD2[1/2]	1080i,720p, SD	1080i	Assigns output signal of HD/SD[1/2] connector.
WFM/PIX	1080i,720p, SD	1080i	Assigns output signal of WFM/PIX connectors.
ASPECT[SD]	16:9, 4:3	16:9	Sets aspect ratio of SD video.

RETURN SELECT menu



Item	Setting	Factory setting	Description
CH1	RET.A1,RET.A2, RET.A3,RET.A4	RET.A1	Assigns the return video signal to CH1 selected when CA-HF1500 RET switch is set to 1.
CH2		RET.A2	Assigns the return video signal to CH2 selected when CA-HF1500 RET switch is set to 2.
CH3		RET.A3	Assigns the return video signal to CH3 selected when CA-HF1500 RET switch is set to 3.
CH4		RET.A4	Assigns the return video signal to CH4 selected when CA-HF1500 RET switch is set to 4.
CA HD-SDI2	RET.B1,RET.B2	RET.B1	Assigns the return video signal to the HD-SDI2 output on CA-HF1500.
ASSIGNMENT		-	Moves to the ASSIGNMENT submenu.

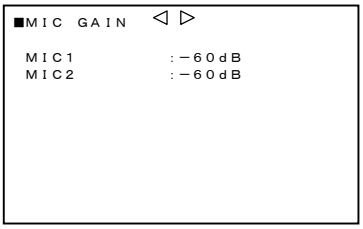
ASSIGNMENT menu



Item	Setting	Factory setting	Description
RET.A1	1080i, 720p, SD SDI 16:9 SD SDI 4:3	1080i	Assigns the TV format to RET.A1.
RET.A2		1080i	Assigns the TV format to RET.A2.
RET.A3		1080i	Assigns the TV format to RET.A3.
RET.A4		1080i	Assigns the TV format to RET.A4.
RET.B1		1080i	Assigns the TV format to RET.B1.
RET.B2		1080i	Assigns the TV format to RET.B2.

Function menu

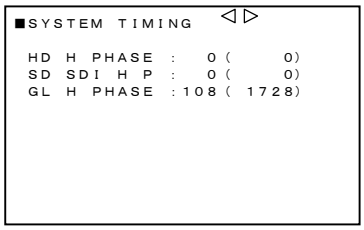
MIC GAIN menu



Item	Setting	Factory setting	Description
MIC1 GAIN	-10dB, -20dB, -30dB, -40dB,-50dB,-60dB, -70dB	-60dB	Sets the sensitivity of the MIC1 line.
MIC2 GAIN	-10dB, -20dB, -30dB, -40dB,-50dB,-60dB, -70dB	-60dB	Sets the sensitivity of the MIC2 line.

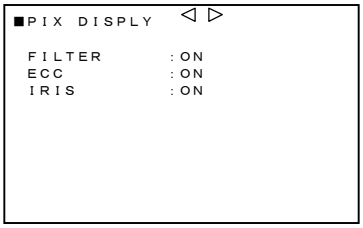
MIC GAIN of camera can be controlled remotely when camera.is conncected.
When "*" mark is displayed on the left of MIC1/2, MIC GAIN can not be controlled, because camera is not connected, etc.
Or when MIC GAIN is controlled by external system via MIC REMOTE connector, the "*" sign is also displayed there, and this menu is not available..

SYSTEM TIMING menu



Item	Setting	Factory setting	Description
HD H PHASE	-128(-512)to +127(511)	0	Adjusts HD-SDI output phase locally.
SD SDI H P	-128(-256)to +127(255)	0	Adjusts SD-SDI output phase locally.
GL H PHASE	-128(-2048)to +127(2047)	108(1728)	Adjusts whole system phase against genlock signal.

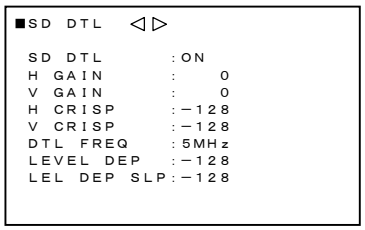
PIX DISPLAY menu



Item	Setting	Factory setting	Description
FILTER	OFF, ON	ON	Displays optical filter type on PIX OUT.
ECC	OFF,ON	ON	Displays Electric Color Correction (ECC) filter type on PIX OUT.
IRIS	OFF, ON	ON	Displays F-number of lens iris on PIX OUT.

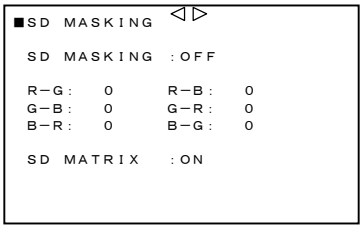
Function menu

SD DTL menu



Item	Setting	Factory setting	Description
SD DTL	OFF,ON	ON	Enable the detail effect specialized for SDTV.
H GAIN	-128 to +127	0	Adjusts the horizontal detail level.
V GAIN	-128 to +127	0	Adjusts the vertical detail level.
H CRISP	-128 to +127	-128	Adjusts the lower threshold level to enable horizontal detail in order not to emphasize noise.
V CRISP	-128 to +127	-128	Adjusts the lower threshold level to enable vertical detail in order not to emphasize noise.
DTL FREQ	4MHz,5MHz,6MHz, 7MHz,8MHz	5MHz	Set the detail frequency to emphasize.
LEVEL DEP	-128 to +127	-128	Adjusts the detail level on dark area of image.
LEV DEP SLP	-128 to +127	-128	Adjusts the slope of detail effect on dark area of image.

SD MASKING menu



Item	Setting	Factory setting	Description
SD MASKING	OFF,ON	OFF	Enable the linear masking effect specialized for SDTV.
R-G	-128 to +127	0	Adjust liner matrix R-G parameter offset.
R-B	-128 to +127	0	Adjust liner matrix R-B parameter offset.
G-B	-128 to +127	0	Adjust liner matrix G-B parameter offset.
G-R	-128 to +127	0	Adjust liner matrix G-R parameter offset.
B-R	-128 to +127	0	Adjust liner matrix B-R parameter offset.
B-G	-128 to +127	0	Adjust liner matrix B-G parameter offset.
SD MATRIX	OFF,ON	ON	Enable the color matrix conversion from HDTV to SDTV.

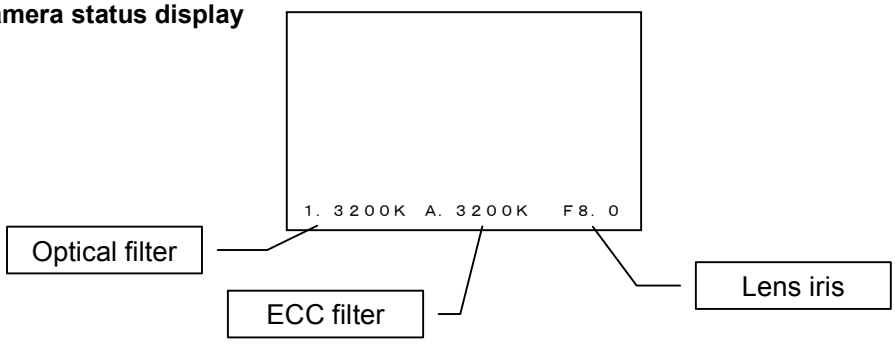
Function menu

ECC filter indication

When the FILTER setting is ON, the ECC filter is displayed at the lower center of the screen. The display depends on the optical filter position.

ECC_FILTER	A.3200K B.4300K C.5600K D.6300K E.8000K	Displays ECC filter information with optical filter 1.

PIX OUT camera status display



Cable check, Warning indication

Cable check
CU-HD1500 automatically checks the condition of optical cable, and shows the results on both PIX OUT screen and LED indicators on front panel at start-up. If any troubles are detected, the camera power might be forced to shut down for safety.

Indication	Content
Screen: CHECK CAMERA CABLE CAMERA CABLE SHORT CAMERA CABLE:HYBRID LED: SHORT lights	The power line may be short-circuited. Camera power defaults to off and camera power switch is rendered inoperative. Cable mode is Selected the HYBRID.
Screen: CAMERA CABLE OPEN CAMERA CABLE:HYBRID LED: OPEN lights	Cable is not connected. Camera power defaults to off and camera power switch is rendered inoperative. Cable mode is Selected the HYBRID.
Screen: CHECK CAMERA CABLE CAMERA CABLE SHORT CAMERA CABLE:SINGLE LED: SHORT lights	The power line may be short-circuited. Camera power defaults to off and camera power switch is rendered inoperative. Cable mode is Selected the SINGLE.
Screen: CAMERA CABLE OPEN OR CHECK CAMERA POWER CAMERA CABLE:SINGLE LED: OPEN lights	Cable is not connected. Camera power defaults to off and camera power switch is rendered inoperative. Cable mode is Selected the SINGLE.
Screen: CCU FAN ALARM!!	FAN warning of CCU The internal fan is stopped or the rotating speed is lowered.
Screen: CAMERA FAN ALARM!!	FAN warning of camera head or camera adaptor The adaptor internal fan is stopped or the rotating speed is lowered.
Screen: CCU OPT WARNING! LED: YELLOW in CCU OPT LEVEL lights	The optical receiver level of CCU is low. Check a fiber cable, and clean the terminal if necessary.
Screen: CCU OPT ALARM ! LED: RED in CCU OPT LEVEL lights	The optical receiver level of CCU is very low. Check a fiber cable, and clean the terminal if necessary.
Screen: CAMERA OPT WARNING! LED: YELLOW in HEAD OPT LEVEL lights	The optical receiver level of camera head is low. Check a fiber cable, and clean the terminal if necessary.
Screen: CAMERA OPT ALARM ! LED: RED in HEAD OPT LEVEL lights	The optical receiver level of camera head is very low. Check a fiber cable, and clean the terminal if necessary.
LED: GL blinks	It blinks, when the synchronized signal of the format at the time of use and a different format is inputted.

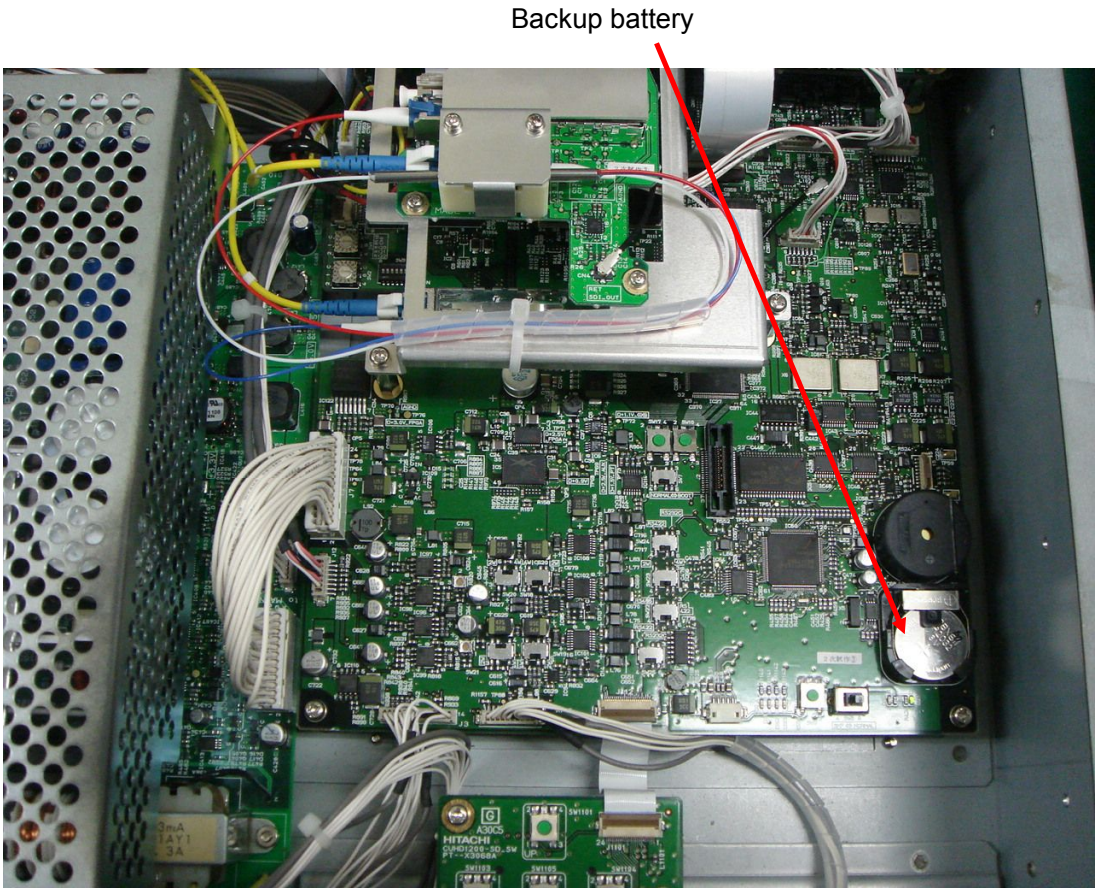
Backup battery replacement

Backup battery replacement

The backup battery is already mounted at the factory.

If the time/date can not maintain accurate information, the alarm message “BACKUP BATT EMPTY” is shown on PIX OUT for about 6 seconds at start-up. In this case, the battery should be replaced, and the date and time should be adjusted at the TIME/DATE menu.

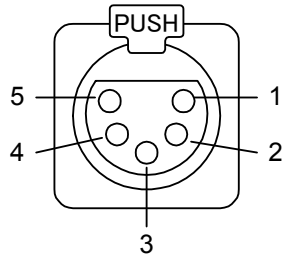
> ⚠ **WARNING**
>
> **Be sure to replace the battery with a type CR2032 lithium battery. Using another type of battery can damage the camera and pose a fire hazard.**
>
> **Also be sure to dispose of the depleted battery as prescribed by local ordinance (e.g., return it to the dealer). Do not dispose of the battery with combustible waste, as this may pose a fire, safety and environmental hazard.**



Service information

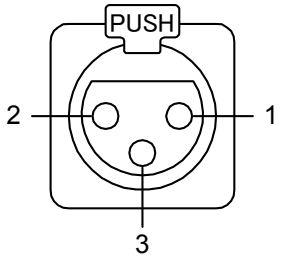
Connector pin diagrams

INTERCOM (5 pin XLR female:HA16PRH-5S)
Combined connector:5pin XLR male



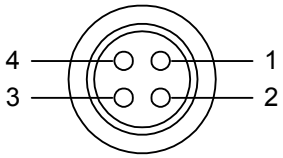
Pin	Signal
1	TALK (C)
2	TALK (H)
3	RECEIVE (C)
4	RECEIVE L (H)
5	RECEIVE R(H)

MIC OUT 1,2 (3 pin XLR female:HA16RM-3SE)
Combined connector:5pin XLR male



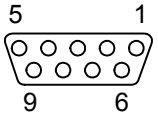
Pin	Signal
1	MIC GND
2	MIC(H) IN
3	MIC(C) IN

Remote 1,2 (4 pin female:HR10A-7R-4S(73))
Combined connector: HR10A-7P-4P

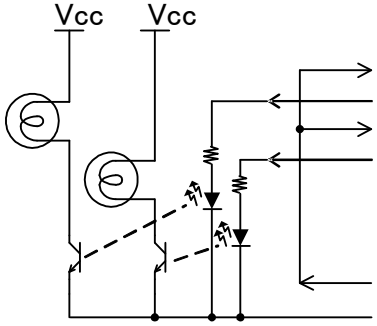


Pin	Signal
1	+12V output
2	DATA input
3	DATA output
4	DATA ground

TALLY OUT(9pin D-sub female:RDED-9S-LNA(4-40)(55))
Combined connector: 9pin D-sub male



Application circuit example



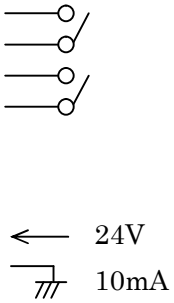
Plug

	Pin
	1
	2
	3
	4
	5
	6
	7
	8
	9
	-

CCU mainframe

Pin	Signal
1	R TALLY 1
2	R TALLY 2
3	G TALLY 1
4	G TALLY 2
5	
6	
7	NC
8	+24V
9	GND
-	

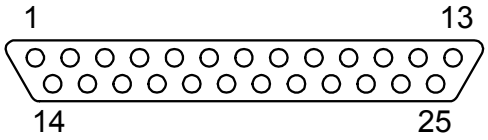
Internal circuit



+24V power current of pin 8 is max.10mA.

Service information

COMMUNICATION (25pin D-sub male:RDBD-25P-LNA(4-40)(55))
Combined connector: 25pin D-sub female

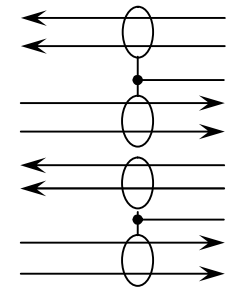


Plug

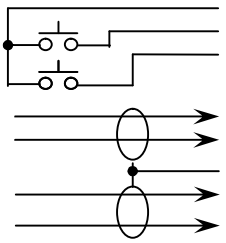
	Pin
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20
	21
	22
	23
	24
	25

CCU mainframe

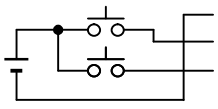
Pin	Signal	
1	SYS2	
2	SYS1	
3	SYS0	
4	PD OUT (C)	2W : OUT/IN(C)
5	PD OUT (H)	2W : OUT/IN(H)
6	PD SHIELD	
7	PD IN (C)	2W : NC
8	PD IN (H)	2W : NC
9	ENG OUT (C)	2W : OUT/IN(C)
10	ENG OUT (H)	2W : OUT/IN(H)
11	ENG SHIELD	
12	ENG IN (C)	2W : NC
13	ENG IN (H)	2W : NC
14	GND	
15		
16	NC	
17	TALLY COMMON	→TALLY COMM
18	G TALLY IN	→G TALLY IN
19	R TALLY IN	→R TALLY IN
20	NC	
21	PGM2 IN(C)	
22	PGM2 IN (H)	
23	PGM SHIELD	
24	PGM1 IN(C)	
25	PGM1 IN (H)	



Contact supply

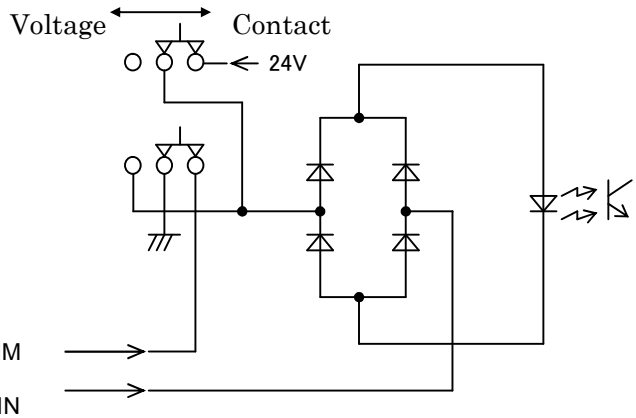


Voltage supply



	17
	18
	19

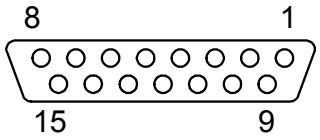
TALLY ; CU internal circuit

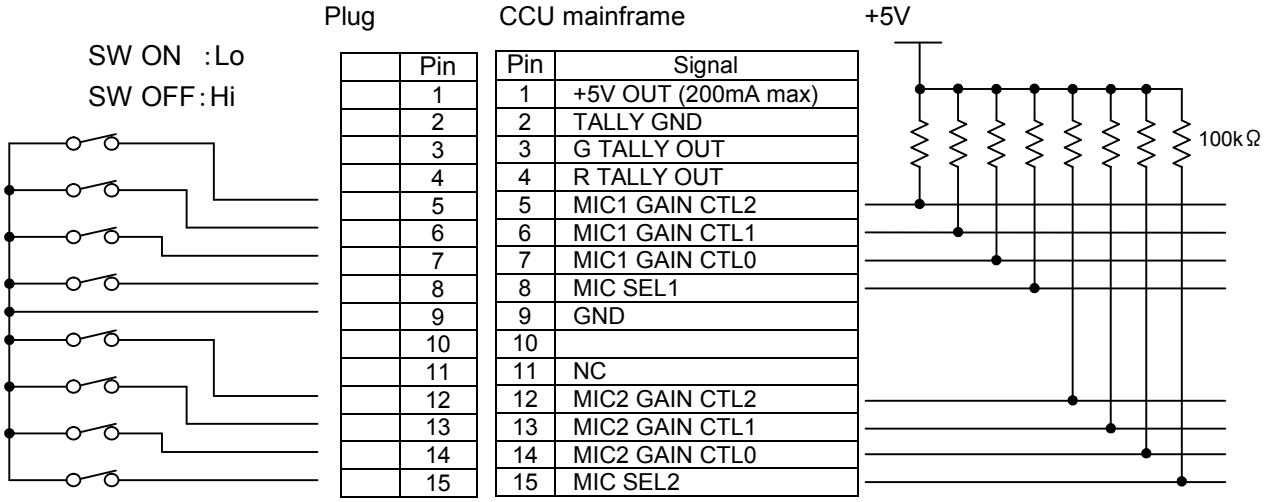


Service information

MIC REMOTE (15pin D-sub female: RDAD-15S-LNA(4-40)(55))

Combined connector: 15pin D-sub male





	Pin
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15

Pin	Signal
1	+5V OUT (200mA max)
2	TALLY GND
3	G TALLY OUT
4	R TALLY OUT
5	MIC1 GAIN CTL2
6	MIC1 GAIN CTL1
7	MIC1 GAIN CTL0
8	MIC SEL1
9	GND
10	
11	NC
12	MIC2 GAIN CTL2
13	MIC2 GAIN CTL1
14	MIC2 GAIN CTL0
15	MIC SEL2

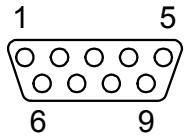
MIC SEL	Hi : Internal Control（Menu）
	Lo : External Control（MIC REMOTE connector）

CTL0	CTL1	CTL2	MIC AMP GAIN
Hi	Hi	Hi	70dB
Lo	Hi	Hi	60dB
Hi	Lo	Hi	50dB
Lo	Lo	Hi	40dB
Hi	Hi	Lo	30dB
Lo	Hi	Lo	20dB
Hi	Lo	Lo	10dB
Lo	Lo	Lo	-10dB

Service information

TRUNK(9pin D-sub male:RDED-9P-LNA(4-40)(55))

Combined connector: 9pin D-sub female

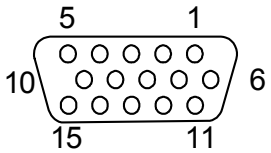


*RS-232C(OPTION)
*RTS:Request To Send
*CTS:Clear To Send

Plug		CCU mainframe	
	Pin	Pin	Signal
	1	1	NC
→	2	2	RX_RS-422+ or (RS-232C) (IN)
←	3	3	TX_RS-422+ or (RS-232C)(OUT)
	4	4	NC
	5	5	GND
	6	6	NC
→	7	7	RX_RS422-(RTS (RS-232C))
←	8	8	TX_RS422-(CTS (RS-232C))
	9	9	NC

WFM CONTROL (15pin female:YKF42-8043N)

Combined connector: 15pin D-sub male



Plug		CCU mainframe	
	Pin	Pin	Signal
	1	1	
←	2	2	WFM CTL0
←	3	3	WFM CTL1
←	4	4	WFM CTL2
←	5	5	WFM CTL3
←	6	6	WFM CTL4
←	7	7	WFM CTL5
←	8	8	WFM CTL6
←	9	9	WFM CTL7
	10	10	
	11	11	
	12	12	
	13	13	
	14	14	
	15	15	SHIELD

MODE	Analog PIX OUT	Analog WFM OUT	CTL0	CTL1	CTL2	CTL3	CTL4	CTL5	CTL6	CTL7
R	R	R	Lo	Hi	Hi	Hi	Hi	Hi	Hi	Hi
G	G	G	Hi	Lo	Hi	Hi	Hi	Hi	Hi	Hi
B	B	B	Hi	Hi	Lo	Hi	Hi	Hi	Hi	Hi
ENC	ENC	ENC	Hi	Hi	Hi	Lo	Hi	Hi	Hi	Hi
SUP	ENC	SUP	Hi	Hi	Hi	Hi	Lo	Hi	Hi	Hi
SEQ	ENC	SUP	Hi	Hi	Hi	Hi	Hi	Lo	Hi	Hi

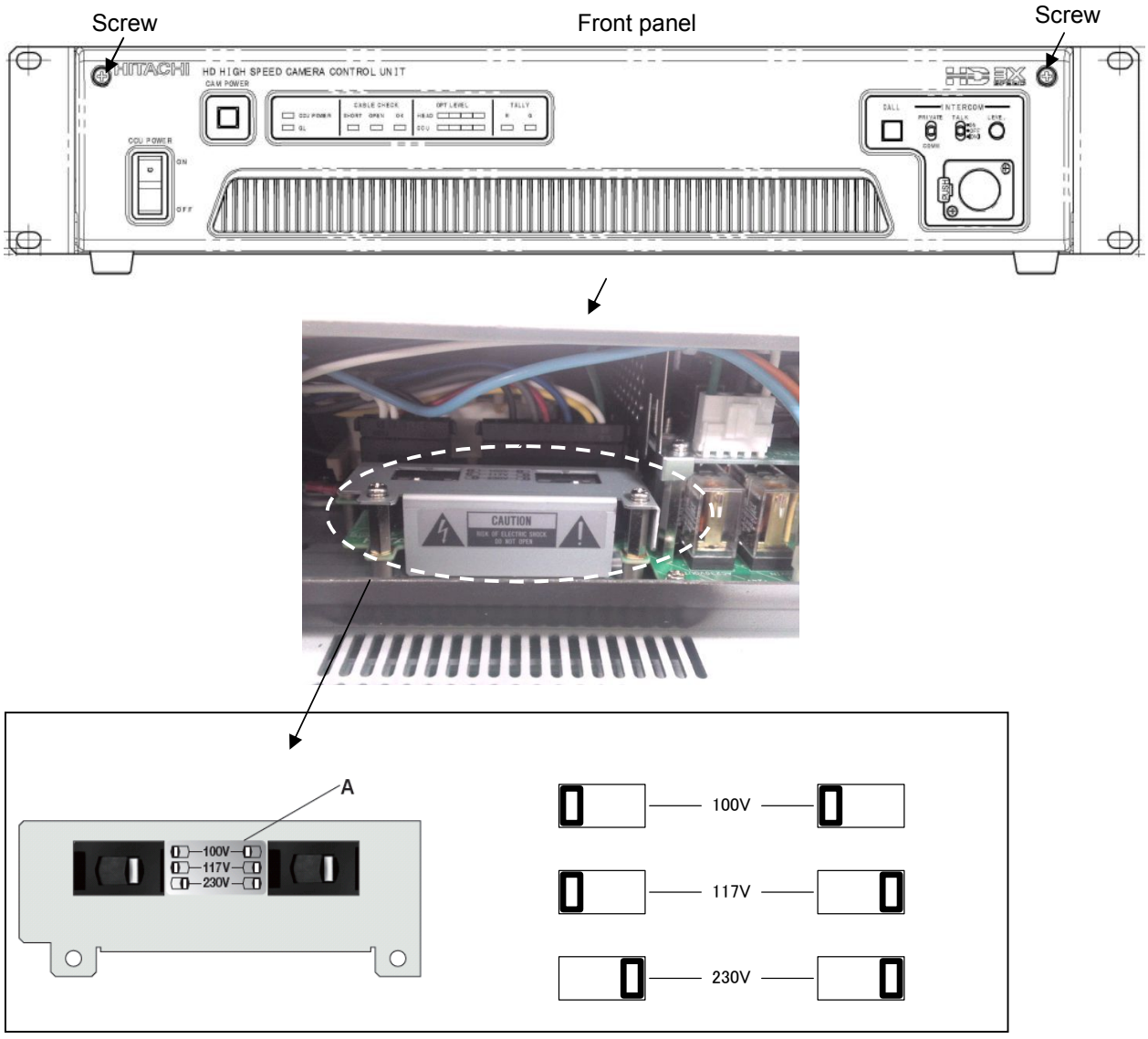
Service information

Switch setting for AC power supply

J (Japan) : AC 100V 50/60Hz
U (U.S.A.) : AC 117V 60Hz
E (Europe) : AC 230V 50Hz

Procedure

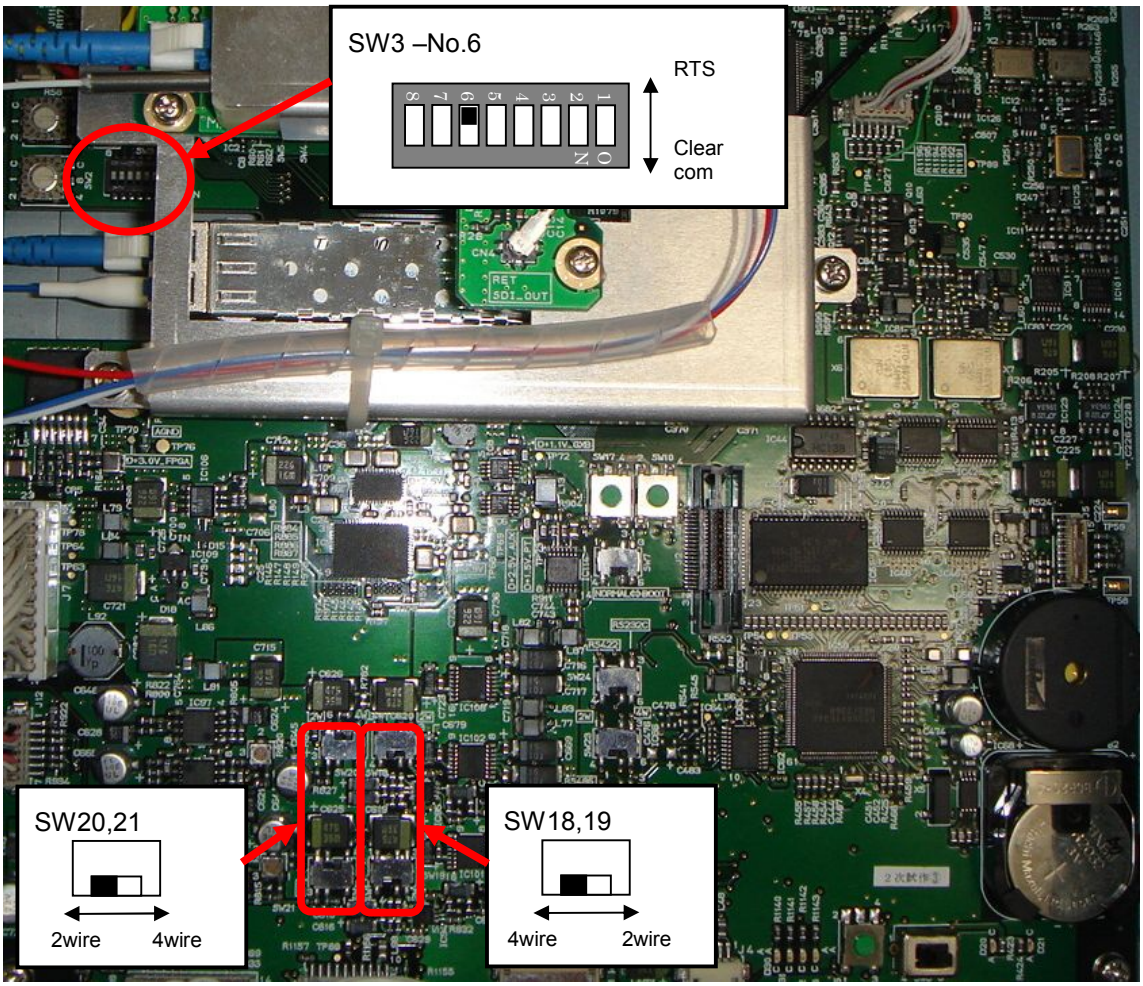
1. Loose two screws and lift the front panel slightly, and then pull it open.
2. Set two switches to supplied AC power voltage according to the diagram.



Service information

Intercom system setting

CUH1200-MAIN

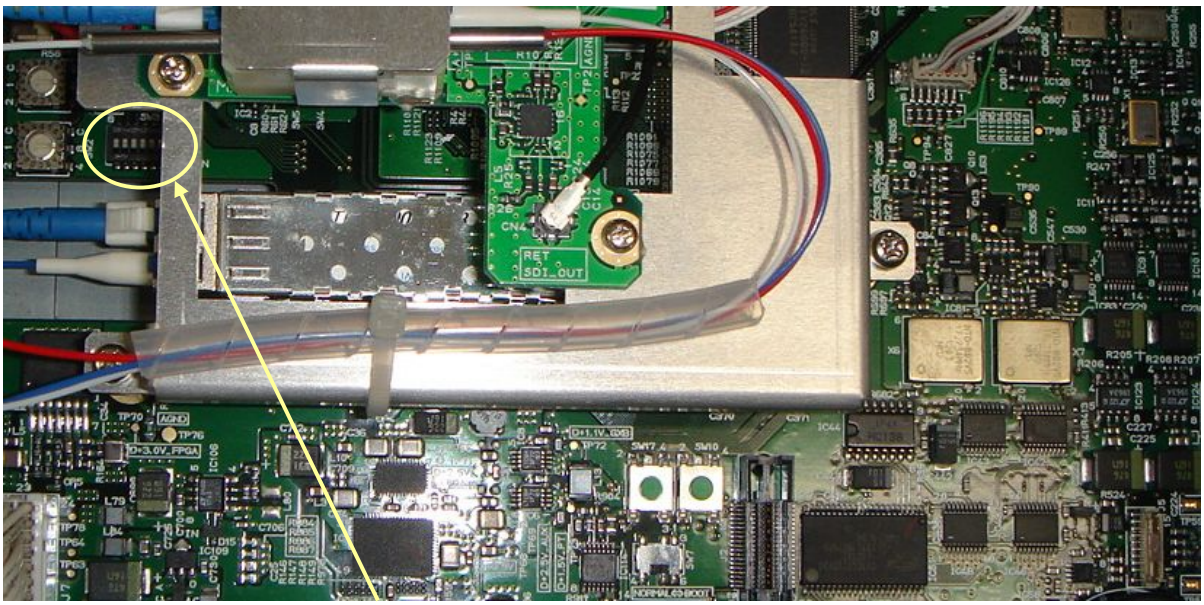


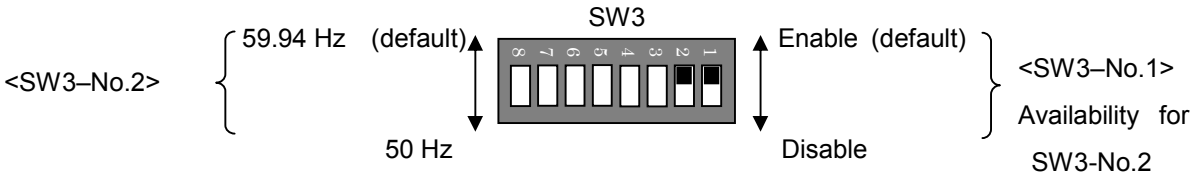
Service information

Video frame rate setting

The CU-HD1500 is switchable for video frame rate between 59.94 Hz and 50 Hz.
The setting method is offered by the dip switch SW3–No.1 on CUH1200-MAIN board.
When the dip switch SW6–No.1 is turned ON, the video frame rate can be switched by the dip switch SW3–No.2.

Dip switch setting on CUH1200-MAIN Board



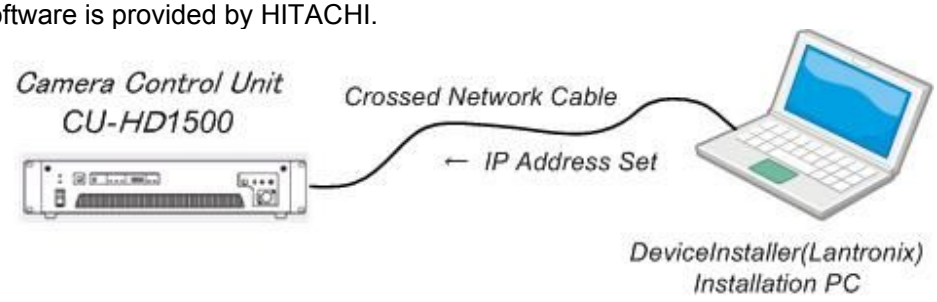


NOTICE
Set both camera and CCU to same video frame rate independently.

Service information

Network Settings

The network IP address can be set by connecting a CROSSED RJ45 network cable (crossed-cable) or straight RJ45 cable with network hub between a PC and the CU-HD1500.
The control software is provided by HITACHI.

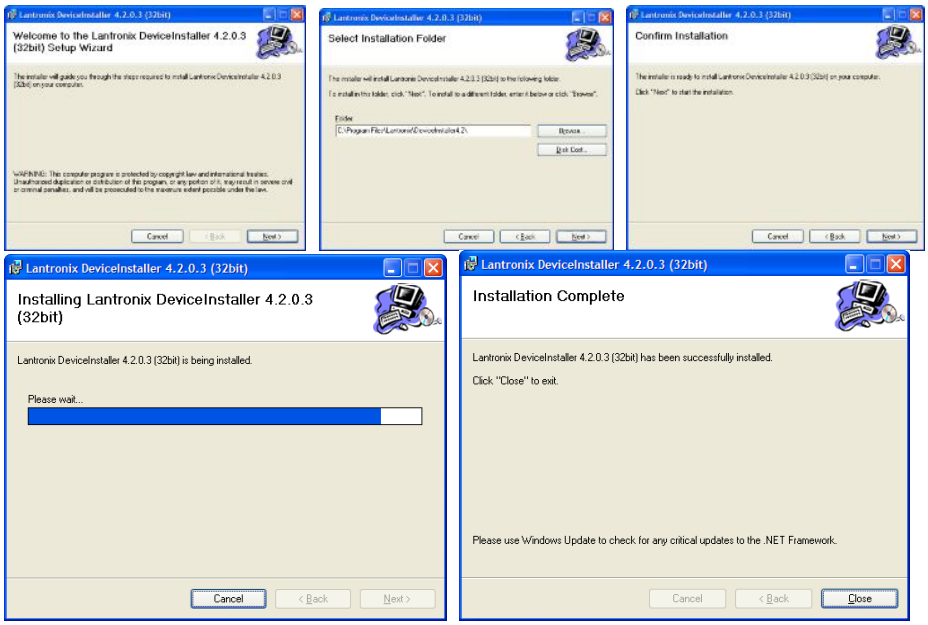


a. XPORT web server device installation

> NOTE: Microsoft .NET Framework 2.0 or greater must be installed on the PC beforehand

b. Insert the downloaded software that file name “Di32DL_4.2.0.3_Web.exe”
The PC does not have to be connected to the CU-HD1500 at this time.

c. Double click to install and follow the instructions on the screen to install the program on the PC.

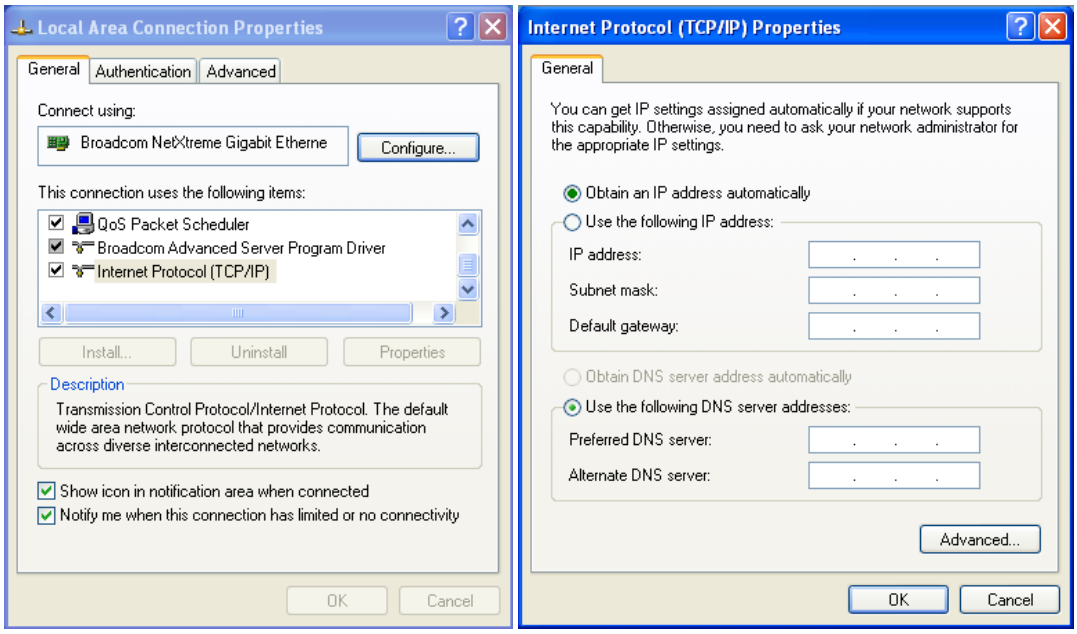


The latest version is on website as below.
http://ltxfaq.custhelp.com/app/answers/detail/a_id/644

The version No. is 4.3.0.1 (as of Sep 2010).

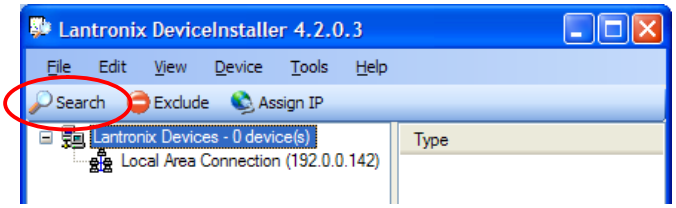
Service information

1.) Please set or change the TCP/IP protocol properties of the PC to “Obtain an IP address automatically” because the IP Address initialization of CU-HD1500 is an automatic acquisition mode.

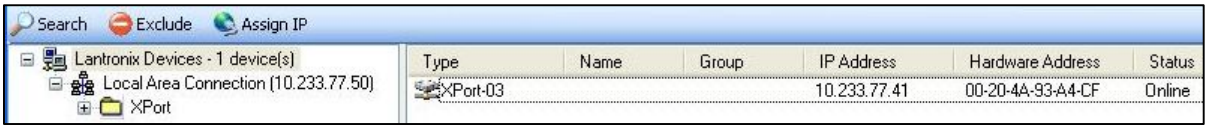


If the CCU has set IP address, the PC has to be set “Use the following IP address” then input the IP address, Subnet mask, and Default gateway.

2.) Connect the CU-HD1500 to the PC as shown in the above figure. Execute the Lantronix ***DeviceInstaller*** application by START > ALL PROGRAMS > LANTRONIX > ***DeviceInstaller*** 4.2 > ***DeviceInstaller***.

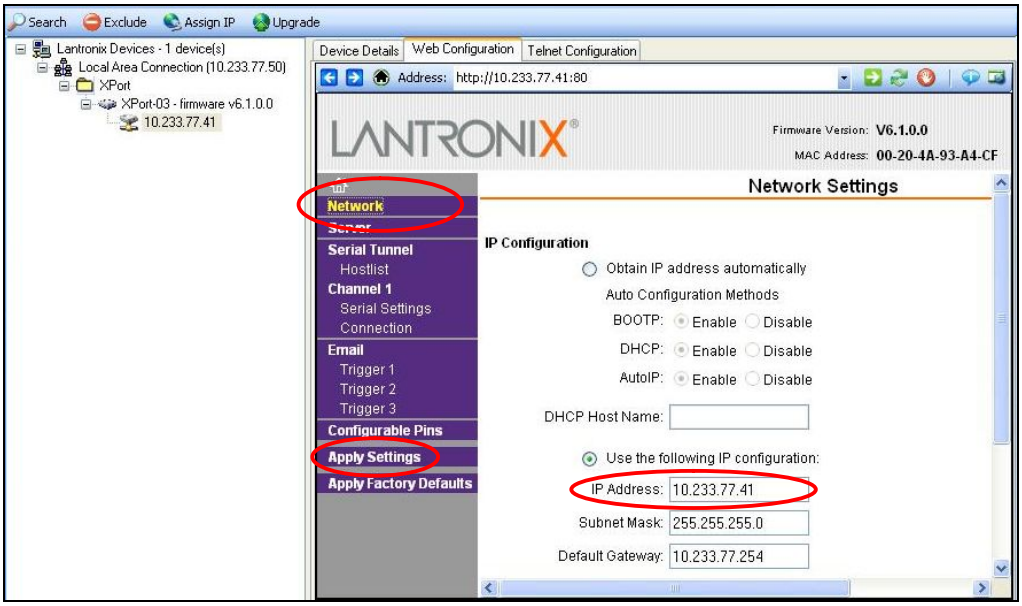


3.) Click on "Search" to display the current IP Address of the connected CU-HD1500. The right pane will show the CU-HD1500 TCP/IP Network Settings.



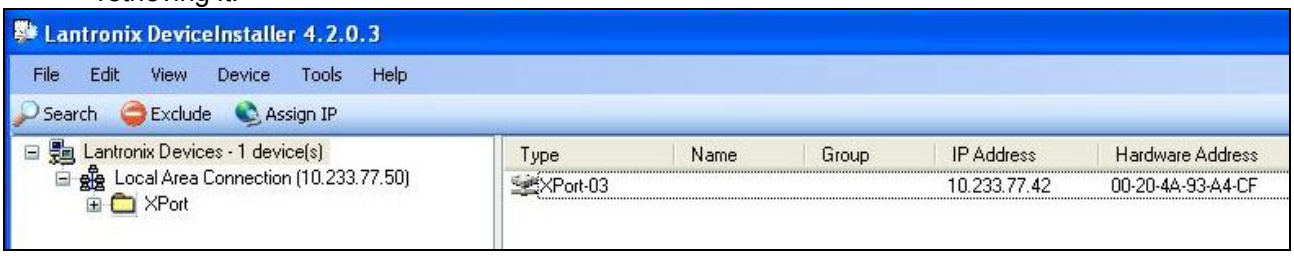
Service information

If the IP Address of the CU-HD1500 is highlighted, and the "Home" button on the screen is clicked, the Network Settings are displayed on the right pane of the ***DeviceInstaller*** program. Note that only the IP Address can be changed on the Network Settings pane. When it is necessary to change the port number of the CCU, click on the “Serial Settings” under Channel 1 on the Network Settings pane.



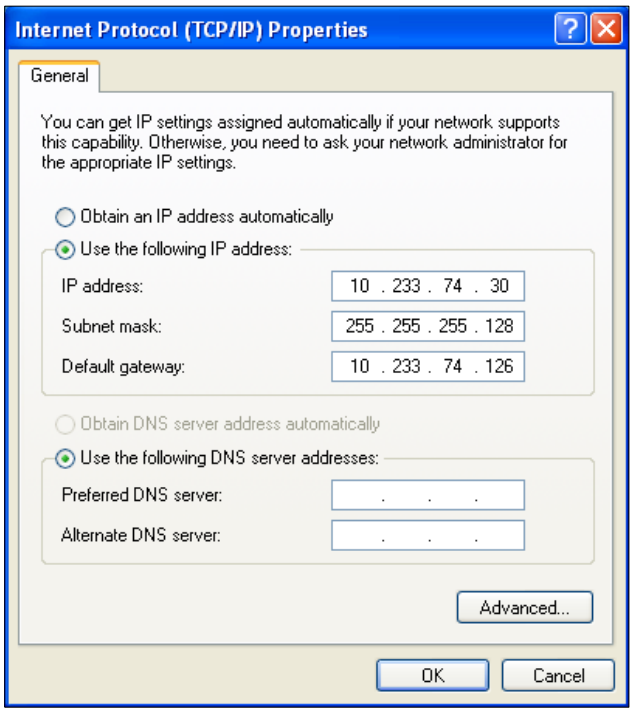
4.) Click on “OK” on the right pane then on “Apply Settings” on the left pane to change the IP address.

5.) Confirm that the IP Address has been changed by re-starting the " ***DeviceInstaller*** " program again by clicking on “Search ". The IP Address on the PC side should also change when retrieving it.



Service information

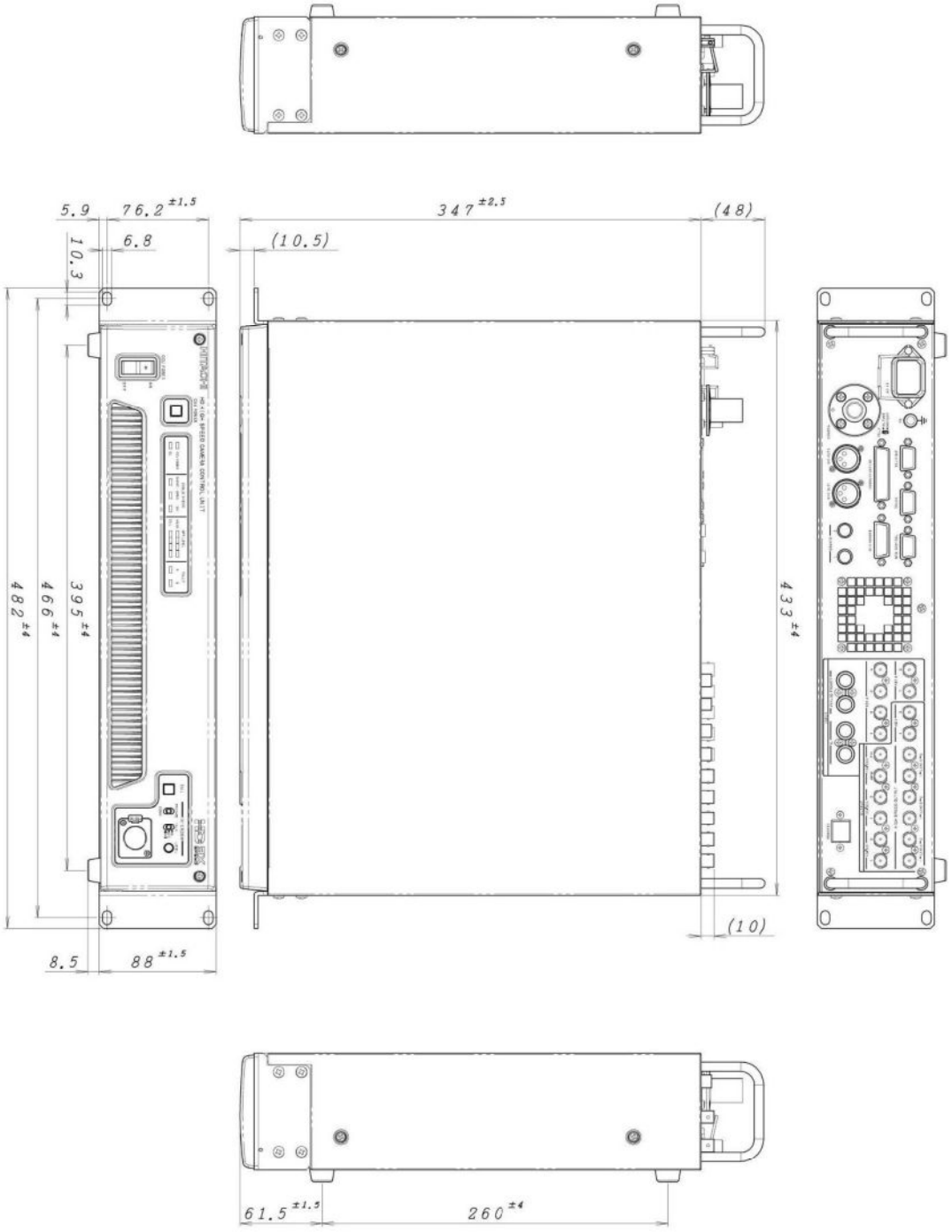
When CU-HD1500 is changed to arbitrary [IP Address], [Subnet Mask], and [Default Gateway], and the address is retrieved, it is necessary to match IP Address of PC, Subnet Mask, and Default Gateway.
(Enough operational administrative to IP Address etc.)



External View

CU-HD1500 External View

(Unit: mm)



Specifications

Camera Control Unit CU-HD1500	
Power supply voltage	(J) AC100V 50Hz/60Hz (CU-HD1500J)
	(U) AC117V 60Hz (CU-HD1500U)
	(E) AC230V 50Hz (CU-HD1500E)
Power consumption	300W approx. (AC operation, including SK-HD1500 ,VF-402 ,CA-HF1500 and AUX POWER OUT 100VA)
Ambient Temperature	Operating : 0℃ ～ +40℃
	Storage : -20℃ ～ +60℃
Dimensions	433(W) × 88(H) × 347(D) mm
Mass	10kg approx.
Maximum cable distance	1km (Full operation) 4km (Without utility power)

■Input output signals (CU-HD1500)

Input signals

Camera Control Unit CU-HD1500 (INPUT)		
GEN LOCK IN	B-BST 0.45Vp-p/75Ω(loop through) or HDTV tri-level sync 0.60Vp-p/75Ω (loop through)	BNC x1
DIGITAL RET IN(A) 1/2/3/4 (B) 1/2	HD-SDI or SD-SDI ・1080i：SMPTE292M ・720p ：SMPTE292M ・SD-SDI : SMPTE259M-C	BNC x4 + x2 (A)x4：for VF (B)x2：for floor monitor
PROMPT IN	VS or VBS 1.0Vp-p/75Ω(loop through)	BNC x1
INTERCOM(HEAD SET)	-60dBm	XLR-5pin(Female)
COMMUNICATION		D-sub 15pin
・INTERCOM	0dBm , 600Ω at 4Wire 0dBu or -15dBu ,200Ω at 2Wire Clear-Com and RTS compatible	PD/ENG
・PGM	0dBm/600Ω	
・R/G TALLY	Contact or Voltage selectable	
REMOTE 1	1.5Vp-p	4pin
REMOTE 2	1.5Vp-p	4pin
REMOTE 3	Remote	RJ-45
TRUNK	RS-422 (150k baud) (RS-232C : Option)	D-Sub 9 pin

Specifications

Output signals

Camera Control Unit CU-HD1500 (OUTPUT)		
HIGH SPEED OUTPUT LINK A, LINK B, LINK C (1/2)	HD-SDI (Embedded 2-Chnl audio available) ・1080i : SMPTE292M ・720p : SMPTE292M	BNC x6(x2+x2+x2)
DIGITAL OUT HD1 (1/2)	HD-SDI (Embedded 2-Chnl audio available) ・1080i : SMPTE292M ・720p : SMPTE292M	BNC x2
DIGITAL OUT HD/SD1～HD/SD2 (1/2)	HD-SDI or SD-SDI selectable (Embedded 2-Chnl audio available) ・1080i : SMPTE292M ・720p :SMPTE292M ・SD-SDI : SMPTE259M-C	BNC x4 (x2 + x2)
DIGITAL OUT HD/SD3 (WFM)	HD-SDI or SD-SDI selectable WFM (Embedded 2-Chnl audio available) ・1080i : SMPTE292M ・720p :SMPTE292M ・SD-SDI : SMPTE259M-C	BNC x1
DIGITAL OUT HD/SD3 (PIX)	HD-SDI or SD-SDI selectable PIX (Embedded 2-Chnl audio available) ・1080i : SMPTE292M ・720p :SMPTE292M ・SD-SDI : SMPTE259M-C	BNC x1
MIC OUT 1	0dBm/600Ω	XLR-3pin
MIC OUT 2	0dBm/600Ω	XLR-3pin
INTERCOM (HEAD SET)	0dBu MAX+15dB	XLR-5pin(Female)
Remote 1	1.5Vp-p	4pin
Remote 2	1.5Vp-p	4pin
Remote 3	Remote	RJ-45
COMMUNICATION		D-sub 25pin
・INTERCOM	0dBm , 600Ω at 4Wire 0dBu or -15dBu ,200Ω at 2Wire	
TALLY OUT(R/G)	Contact	D-sub 9pin
	24Vdc, 10mA	
WFM CONTROL	WFM 0-7 0/5V	D-sub 15pin
MIC REMOTE	MIC1,2 Gain	D-sub 15pin
TRUNK	RS-422 (150k baud) (RS-232C : Option)	D-Sub 9 pin

Specifications

■Accessories

・Remote control unit

・Setup control unit

■Standard Composition

・Camera Control Unit	:	CU-HD1500	1
・Code Set(U/J)	:	WC0051(0234-0089A 2.5M) (8488057)	1
・Code Set(E)	:	VM0306B;VM0303B 2.5M (BBZ0399)	1
・Operation Manual	:	CU-HD1500 O/M	1
・Connector	:	HDBB-25S(05) (8AAE000522)	1
・Plug Case	:	HDB-CTH(4-40)(10) (JYHS003)	1
・Connector	:	HDEB-9S(05) (2PBB018260)	1
・Plug Case	:	HDE-CTH(4-40)(10) (JYH0051)	1
・Connector	:	HDEB-9P(05) (8AAE000718)	1
・Plug Case	:	HDE-CTH(4-40)(10) (JYH0051)	1
・Written guarantee(U)	:	Written guarantee (MGA0915)	1